



PARTICIPANT HANDBOOK 2004



UtahState
UNIVERSITY

ELEMENTARY CORE ACADEMY

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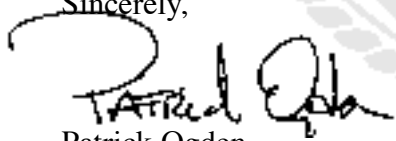
Dear CORE Academy Teachers:

Involvement in the CORE Academy represents a significant investment by you, your school, and district in educational excellence for the students of Utah. The goal of the Academy is to provide a high quality opportunity for teachers to engage in meaningful professional growth.

The Academy will help you gain expertise in the collection and use of accurate data and analysis of each student's level of achievement, teach sound instructional methods specifically aligned to the state Core Curriculum, and provide an opportunity for collegial support.

I commend you for your dedication and willingness to engage in meaningful professional development. It is my belief that educators care deeply about their students and work hard to create successful experiences in the classroom. Despite some challenges facing our schools, dedicated and professional educators make profound differences each day.

Sincerely,



Patrick Ogden
Interim State Superintendent
of Public Instruction

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Major funding for the Academy comes from the following sources:

Federal/State Funds:

- Utah State Office of Education
 - Staff Development Funds
 - Special Education Services Unit
- ESEA Title II
- Utah Math Science Partnership
- WestED Eisenhower Regional Consortium

District Funds:

Various sources including Quality Teacher Block, Federal ESEA Title II, and District Professional Development Funds

School Funds:

- Trust land, ESEA Title II, and other school funds
- Utah State Office of Education Special Education Services

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Additionally, numerous school districts, individual schools, and principals in Utah have sponsored teachers to attend the Academy. Other educational groups such as the Utah Division of Water Resources, National Energy Foundation, Utah Energy Office, and the Utah Mining Association have assisted in the development and delivery of resources in the Academy.

Most important is the thousands of teachers who take time from their summer to attend these professional development workshops. It is these teachers who make this program possible.

Goals of the Elementary CORE Academy

Overall

The purpose of the Elementary CORE Academy is to create high quality teacher instruction and improve student achievement through the delivery of professional development opportunities and experiences for teachers across Utah.

The Academy will provide elementary teachers in Utah with:

1. Models of exemplary and innovative instructional strategies, tools, and resources to meet newly adopted Core Curriculum standards, objectives, and indicators.
2. Practical models and diverse methods of meeting the learning needs of all children, with instruction implementation aligned to the Core Curriculum.
3. Meaningful opportunities for collaboration, self-reflection, and peer discussion specific to innovative and effective instructional techniques, materials, teaching strategies, and professional practices in order to improve classroom instruction.

Learning a limited set of facts will no longer prepare a student for real experiences encountered in today's world. It is imperative that educators have continued opportunities to obtain instructional skills and strategies that provide methods of meeting the needs of all students. Participants of the Academy experience will be better equipped to meet the challenges faced in today's classrooms.

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Kindergarten Core Curriculum

K-2 Core Curriculum

Introduction

Most students enter school confident in their own abilities; they are curious and eager to learn more. They make sense of the world by reasoning and problem solving. Young students are active, resourceful individuals who construct, modify, and integrate ideas by interacting with the physical world as well as with peers and adults. They learn by doing, collaborating, and sharing their ideas. Students' abilities to communicate through language, pictures, sound, movement, and other symbolic means develop rapidly during these years.

Literacy requires an understanding of listening, speaking, reading, writing, and viewing in many forms including print and electronic images. Today, more than ever, students must have the ability to think critically while applying new information to existing knowledge. Therefore, school literacy programs need to involve students in learning to read and write in situations that foster critical thinking and the use of literacy for independent learning in all content areas.

Young students are building beliefs about what mathematics is, about what it means to know and do mathematics, and about themselves as mathematical learners. Mathematics instruction needs to include more than short-term learning of rote procedures. Students must use technology and other mathematical tools, such as manipulative materials, to develop conceptual understanding and solve problems as they do mathematics. Students, as mathematicians, learn best with hands-on, active experiences throughout the instruction of the mathematics curriculum.

Language Arts and Mathematics are the tools for doing work in other areas. These content areas need to be integrated into other curriculum areas to provide students with optimal learning. The curriculum becomes more relevant when content areas are connected rather than taught in strict isolation. For this reason, the content areas of the Fine Arts, Health Education, Physical Education, Science, and Social Studies have been combined to enable teachers to teach more efficiently and students to learn in a real-life context that enhances lifelong learning.

The Kindergarten through Second Grade Core describes what students should know and be able to do at the end of each of the kindergarten, first, and second grade levels. It has been developed, critiqued, and revised by a community of Utah teachers, university

- **Young children learn by doing, collaborating, and sharing their ideas.**



**Organization of the
K-2 Core:**

- **Intended Learning Outcomes**
- **Standard**
- **Objective**
- **Indicator**

educators, State Office of Education specialists, and an advisory committee representing a wide variety of people from the community. The Core reflects the current philosophy of education that is expressed in national documents developed by the International Reading Association, National Council of the Teachers of Mathematics, National Standards for Arts Education, Information Power, National Association for Sport and Physical Education, American Association for the Advancement of Science, National Council for the Social Studies, International Society for Technology and Education, and Early Childhood Standards.

Organization of the K-2 Core

The Core is designed to help teachers organize and deliver instruction.

- Each grade level begins with a brief course description.
- The Kindergarten, First, and Second Grade INTENDED LEARNING OUTCOMES describe the goals for students to gain knowledge and understand their world. They are found at the beginning of each grade level, are an integral part of the Core, and should be included as part of instruction.
- The first Core area consists of the Language Arts curriculum.
- The second Core area consists of the Mathematics curriculum.
- The third Core area consists of the subject areas of the Fine Arts, Health Education, Physical Education, Science, and Social Studies.
- A STANDARD is a broad statement of what students are expected to understand. Several Objectives are listed under each Standard.
- An OBJECTIVE is a more focused description of what students need to know and be able to do at the completion of instruction. If students have mastered the Objectives associated with a given Standard, they have mastered that Standard at that grade level. Several Indicators are described for each Objective.
- An INDICATOR is a measurable or observable student action that enables one to assess whether a student has mastered a particular Objective. Indicators are not meant to be classroom activities, but they can help guide classroom instruction.

Guidelines Used in Developing the K-2 Core

The Core is:

Consistent With the Nature of Learning

The main intent in the early grades is for students to value learning and develop the skills to gain knowledge and understand their world. The Core is designed to produce an integrated set of Kindergarten, First, and Second Grade Intended Learning Outcomes for students, with specific goals in all content areas.

Coherent

The Core has been designed so that, wherever possible, the ideas taught within a particular grade level have a logical and natural connection with each other and with those of earlier grades. Efforts have also been made to select topics and skills that integrate well with one another appropriate to grade level. In addition, there is an upward articulation of concepts, skills, and content. This spiraling is intended to prepare students to understand and use more complex concepts and skills as they advance through the learning process.

Developmentally Appropriate

The Core takes into account the psychological and social readiness of students. It builds from concrete experiences to more abstract understandings. The Core focuses on providing experiences with concepts that students can explore and understand in depth to build the foundation for future learning experiences.

Reflective of Successful Teaching Practices

Learning through play, movement, and adventure is critical to the early development of the mind and body. The Core emphasizes student exploration. The Kindergarten, First, and Second Grade Intended Learning Outcomes are central in each standard. The Core is designed to encourage instruction with students working in cooperative groups. Instruction should recognize the importance of each Core area in the classroom, school, and community.

Comprehensive

The Kindergarten, First, and Second Grade Core does not cover all topics that have traditionally been in the Kindergarten, First, and Second Grade curriculum; however, it provides a basic foundation of knowledge and skills in all content areas. By emphasizing depth rather than breadth, the Core seeks to empower students rather than intimidate them with a collection of

- **By emphasizing depth rather than breadth, the Core seeks to empower students.**

- **Student achievement of the standards and objectives in this Core is best assessed using a variety of assessment instruments.**

isolated and eminently forgettable facts. Teachers are free to add related concepts and skills, but they are expected to teach all the standards and objectives specified in the Core for their grade level.

Feasible

Teachers and others who are familiar with Utah students, classrooms, teachers, and schools have designed the Core. It can be taught with easily obtained resources and materials. A Teacher Handbook is also available for teachers and has sample lessons on each topic for each grade level. The Teacher Handbook is a document that will grow as teachers add exemplary lessons aligned with the new Core.

Useful and Relevant

This curriculum relates directly to student needs and interests. Relevance of content areas to other endeavors enables students to transfer skills gained from one area of instruction into their other school subjects and into their lives outside the classroom.

Reliant Upon Effective Assessment Practices

Student achievement of the standards and objectives in this Core is best assessed using a variety of assessment instruments. Performance tests are particularly appropriate to evaluate student mastery of thinking processes and problem-solving skills. A variety of classroom assessment approaches should be used by teachers in conjunction with the Criterion Referenced Tests (CRT) that are administered to first and second grade students in Language Arts and Mathematics, and with the pre- and post-tests administered in kindergarten. Observation of students engaged in instructional activities is highly recommended as a way to assess students' skills as well as attitudes toward learning. The nature of the questions posed by students provides important evidence of their understanding.

Engaging

In the early grades, children are forming attitudes and habits for learning. It is important that instruction maximizes students' potential and gives them understanding of the intertwined nature of learning. Effective elementary instruction engages students actively in enjoyable learning experiences. Instruction should be as thrilling an experience for a child as seeing a rainbow, growing a flower, or describing a toad. In a world of rapidly expanding knowledge and technology, all students must gain the skills they will need to understand and function responsibly and successfully in the world. The Core provides skills in a context that enables students to experience the joy of learning.

K-2 Intended Learning Outcomes

The main intent at the early grades is for students to value learning and develop the skills to gain knowledge and understand their world.

The Intended Learning Outcomes described below reflect the belief that kindergarten, first, and second grade education should address the intellectual, social, emotional, physical, and ethical development of children. While the Kindergarten, First, and Second Grade Core Curriculum focuses primarily on content and the intellectual development of children, it is important to create a classroom culture that fosters development of many aspects of a person. By nurturing development in these interrelated human domains, young people will be healthy and discover varied and exciting talents and dreams. They will be socially and civically competent and able to express themselves effectively.

The outcomes identified below are to provide a direction for general classroom instruction, management, culture, environment, and inclusion. These outcomes should be interwoven throughout the Kindergarten, First, and Second Grade Core Curriculum, which offers more specific and measurable standards for instruction.

Beginning in kindergarten and by the end of second grade students will be able to:

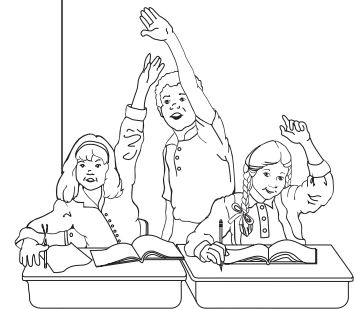
1. Demonstrate a positive learning attitude.

- a. Display a sense of curiosity.
- b. Practice personal responsibility for learning.
- c. Demonstrate persistence in completing tasks.
- d. Apply prior knowledge and processes to construct new knowledge.
- e. Voluntarily use a variety of resources to investigate topics of interest.

2. Develop social skills and ethical responsibility.

- a. Respect similarities and differences in others.
- b. Treat others with kindness and fairness.
- c. Follow classroom and school rules.
- e. Include others in learning and play activities.
- f. Participate with others when making decisions and solving problems.
- g. Function positively as a member of a family, class, school, and community.

- **Intended learning outcomes provide a direction for general classroom instruction, management, culture, environment, and inclusion.**



3. Demonstrate responsible emotional and cognitive behaviors.

- a. Recognize own values, talents, and skills.
- b. Express self in positive ways.
- c. Demonstrate aesthetic awareness.
- d. Demonstrate appropriate behavior.
- e. Express feelings appropriately.
- f. Meet and respect needs of self and others.

4. Develop physical skills and personal hygiene.

- a. Respect physical similarities and differences in self and others.
- b. Learn proper care of the body for health and fitness.
- c. Develop knowledge that enhances participation in physical activities.
- d. Display persistence in learning motor skills and developing fitness.
- e. Use physical activity for self-expression.

5. Understand and use basic concepts and skills.

- a. Develop phonological and phonemic awareness.
- b. Decode, read, and comprehend written text and symbols.
- c. Develop vocabulary.
- d. Develop reasoning and sequencing skills.
- e. Demonstrate problem-solving skills.
- f. Observe, sort, and classify objects.
- g. Make and interpret representations, graphs, and models.
- h. Recognize how content ideas interconnect.
- i. Make connections from content areas to application in real life.

6. Communicate clearly in oral, artistic, written, and nonverbal form.

- a. Share ideas using communication skills.
- b. Predict an event or outcome based on evidence.
- c. Use appropriate language to describe events, objects, people, ideas, and emotions.
- d. Listen attentively and respond to communication.
- e. Use mathematical concepts to communicate ideas.
- f. Use visual art, dance, drama, and music to communicate.

The Kindergarten Core Curriculum

In kindergarten, core concepts should be integrated across all curriculum areas. Reading, writing, and mathematical skills should be emphasized as integral to the instruction in all other areas. Personal relevance of content is always an important part of helping students to value learning and should be emphasized.

Kindergarten students engage in many activities that help them develop oral language and literacy. Kindergarten students take part in language activities that extend their vocabulary, conceptual knowledge, and phonological awareness. Students learn to follow directions and develop the language of schooling.

Within a well-balanced mathematics curriculum, the primary focal points for kindergarten are developing whole-number concepts and using patterns and sorting to explore number, data, and shape. While learning mathematics, students will be actively engaged in using concrete materials and appropriate technologies such as calculators and computers.

In kindergarten, students learn about themselves and their relationship to the classroom, school, family, and community. Students are expected to develop skills in posing simple questions, measuring, sorting, classifying, and communicating information about the natural world. Students learn about their bodies and the behaviors necessary to protect them and keep them healthy. They learn basic body control while beginning to develop motor skills and moving in a variety of settings. Students become aware of strength, endurance, and flexibility in different parts of their bodies. They express their thoughts and ideas creatively, while challenging their imagination, fostering reflective thinking, and developing disciplined effort and problem-solving skills.

- **Reading, writing, and mathematical skills should be emphasized as integral to the instruction in all other areas.**



Kindergarten Language Arts Core Curriculum

Standard I:
Oral Language—
Students develop
language for the
purpose of
effectively
communicating
through listening,
speaking, viewing,
and presenting.

Standard I: *Oral Language—*Students develop language for the purpose of effectively communicating through listening, speaking, viewing, and presenting.

Objective 1: Develop language through listening and speaking.

- a. Listen attentively.
- b. Listen and demonstrate understanding by responding appropriately (e.g., follow two-step directions).
- c. Speak clearly and audibly with expression in communicating ideas.
- d. Speak in complete sentences.

Objective 2: Develop language through viewing media and presenting.

- a. View a variety of media presentations attentively.
- b. Use a variety of formats (e.g., show and tell, drama, sharing of books) in presenting with various forms of media.



Standard II: *Concepts of Print*—Students develop an understanding of how printed language works.

Objective 1: Demonstrate an understanding that print carries “the” message.

- a. Recognize that print carries different messages.
- b. Identify messages in common environmental print (e.g., signs, boxes, wrappers).

Objective 2: Demonstrate knowledge of elements of print within a text.

- a. Identify front/back, top/bottom, left/right of text/book.
- b. Discriminate between upper- and lower-case letters, numbers, and words in text.
- c. Show the sequence of print by pointing left to right with return sweep.
- d. Identify where text begins and ends on a page.
- e. Identify punctuation in text (i.e., periods, question marks, exclamation points).

Standard II:
***Concepts of Print*—**
Students develop an
understanding of
how printed
language works.

**Standard III:
Phonological and
Phonemic
Awareness—
Students develop
phonological and
phonemic
awareness.**

Standard III: *Phonological and Phonemic Awareness—Students develop phonological and phonemic awareness.*

Objective 1: Demonstrate phonological awareness.

- a. Count the number of words in a sentence.
- b. Identify and create a series of rhyming words orally (e.g., cat, bat, sat, _____).
- c. Recognize words beginning with the same initial sound in an alliterative phrase or sentence (e.g., Six snakes sold snacks and sodas.).

Objective 2: Recognize like and unlike word parts (oddity tasks).

- a. Identify the word that does not rhyme in a series of words (e.g., bat, cat, sat, pig).
- b. Identify the words with same beginning consonant sound in a series of words (e.g., man, sat, sick) and ending consonant sound (e.g., man, sat, then).

Objective 3: Orally blend word parts (blending).

- a. Blend syllables to make words (e.g., /ta/.../ble/, table).
- b. Blend onset and rimes to make words (e.g., /p/.../an/, pan).
- c. Blend individual phonemes to make words (e.g., /s/.../a/.../t/, sat).

Objective 4: Orally segment words into word parts (segmenting).

- a. Segment words into syllables (e.g., table, /ta/.../ble/).
- b. Segment words into onset and rime (e.g., pan, /p/...an).
- c. Segment words into individual phonemes (e.g., sat, /s/.../a/.../t/).

Objective 5: Orally manipulate phonemes in words and syllables (manipulation).

- a. Substitute initial sound (e.g., replace the first sound in mat to /s/, say sat).
- b. Substitute initial sound to create new words (e.g., replace the first sound in mat with letters of the alphabet).

Standard IV: *Phonics and Spelling*—Students use phonics and other strategies to decode and spell unfamiliar words while reading and writing.

Objective 1: Demonstrate an understanding of the relationship between letters and sounds.

- a. Name all upper-and lower-case letters of the alphabet in random order.
- b. Match consonant and short vowel sounds to the correct letter.
- c. Blend simple cvc sounds into one-syllable words.

Objective 2: Use knowledge of structural analysis to decode words.

- a. Identify and read grade level contractions and compound words.
- b. Identify sound patterns and apply knowledge to decode words (e.g., blends, digraphs, vowel patterns, r-controlled vowels).
- c. Demonstrate an understanding of representing the same sound with different patterns by decoding these patterns accurately in isolation and in text (e.g., ee, ea, ei, e).
- d. Use knowledge of root words and prefixes (e.g., re, un, mis) and suffixes (e.g., s, es, ed, ing, est, ly) to decode words.
- e. Use letter and syllable patterns to pronounce multisyllabic words.

Objective 3: Spell words correctly.

- a. Hear and write letters to represent single sounds in words.
- b. Spell a small number of grade level words (e.g., you, the, to, is).
- c. Spell first name correctly.

Objective 4: Use spelling strategies to achieve accuracy (e.g., prediction, visualization, association).

- a. Use knowledge about spelling to predict the spelling of new words.
- b. Associate the spelling of new words with that of known words.

Standard IV:
***Phonics and Spelling*—Students use phonics and other strategies to decode and spell unfamiliar words while reading and writing.**

Standard V:
Fluency—Students develop reading fluency to read aloud grade level text effortlessly without hesitation.

Standard V: ***Fluency—Students develop reading fluency to read aloud grade level text effortlessly without hesitation.***

Objective 1: Read aloud grade level text with appropriate speed and accuracy.

- a. Read alphabet letters in random order with automaticity.
- b. Read numerals from zero to ten in random order with automaticity.

Objective 2: Read aloud grade level text effortlessly with clarity.

- a. Use appropriate intonation and expression during unison oral reading with the teacher.
- b. Read with automaticity approximately 25 high-frequency/sight words.

Standard VI: Vocabulary—Students learn and use grade level vocabulary to increase understanding and read fluently.

Objective 1: Learn new words through listening and reading widely.

- a. Use new vocabulary learned by listening, reading, and discussing a variety of genres.
- b. Learn the meaning of a variety of grade level words (e.g., words from literature, social studies, science, math).
- c. Use resources to learn new words by relating them to known words (e.g., books, charts, word walls).

Objective 2: Use multiple resources to learn new words by relating them to known words and/or concepts. See second, third, fourth, fifth, and sixth grades.

Objective 3: Use structural analysis and context clues to determine meanings of words.

- a. Identify meanings of words by looking at the root word and using known endings (e.g., car, cars; jump, jumped, jumping).
- b. Monitor reading using context to explain the meanings of unknown key words from text read aloud.

**Standard VI:
Vocabulary—
Students learn and
use grade level
vocabulary to
increase
understanding and
read fluently.**

Standard VII:
Comprehension—
Students
understand,
interpret, and
analyze narrative
and informational
grade level text.

Standard VII: *Comprehension—*Students understand, interpret, and analyze narrative and informational grade level text.

Objective 1: Identify purposes of text.

- a. Discuss purpose for reading.
- b. Discuss author's purpose.

Objective 2: Apply strategies to comprehend text.

- a. Relate prior knowledge to make connections to text (e.g., text to text, text to self, text to world).
- b. Ask questions about text.
- c. Make predictions using picture clues, title, and prior knowledge.
- d. Make inferences and draw conclusions from text.
- e. Retell identifying key ideas.
- f. Compile information from text.

Objective 3: Recognize and use features of narrative and informational text.

- a. Identify beginning, middle, and ending of text.
- b. View a variety of simple genres: nursery rhymes, fairy tales, poems, realistic fiction, fantasy.
- c. Identify information from pictures.
- d. Recognize information as real/make believe.
- e. View a variety of informational texts (e.g., pictures books).

Standard VIII: *Writing*—Students write daily to communicate effectively for a variety of purposes and audiences.

Objective 1: Prepare to write by gathering and organizing information and ideas (pre-writing).

- a. Generate ideas for writing by listening, talking, drawing, looking at literature and informational text, being read to, and reflecting on personal experiences.
- b. Select topics from generated ideas.

Objective 2: Compose a written draft.

- a. Draft ideas on paper, utilizing pictures with labels/words.
- b. Select appropriate words to convey meaning.

Objective 3: Revise by elaborating and clarifying a written draft. See first, second, third, fourth, fifth, and sixth grades.

Objective 4: Edit written draft for conventions.

- a. Edit writing of first name for appropriate capital and lower-case letters.
- b. Edit writing for the spelling of a key word.

Objective 5: Use fluent and legible handwriting to communicate.

- a. Print all upper- and lower-case letters of the alphabet and numerals 0-9 using proper form, proportions, and spacing.
- b. Write with increasing fluency in forming manuscript letters and numerals.
- c. Write name legibly using correct manuscript form.

Objective 6: Write in different forms and genres.

- a. Produce personal writing (e.g., All About Me books, notes).
- b. Produce traditional and imaginative stories, narrative and formula poetry as a shared writing activity.
- c. Produce functional text (e.g., ABC books, labels, signs).
- d. Share illustrations and writing with others.
- e. Take part in producing group products.

**Standard VIII:
Writing—Students write daily to communicate effectively for a variety of purposes and audiences.**

Kindergarten Mathematics

Core Curriculum

Standard I:
Students will understand simple number concepts and relationships.

Standard I: Students will understand simple number concepts and relationships.

Objective 1: Identify and use whole numbers.

- a. Relate a *numeral* to the number of objects in a set (e.g., $\square \square \square = 3$).
- b. Construct models of numbers to 10 with physical objects or manipulatives.
- c. Make pictorial representations of numbers to 10 (e.g., draw four circles, draw six squares).
- d. Recognize and write numerals from 0 to 10.
- e. Manipulate objects to demonstrate and describe multiple ways of representing a number (e.g., 5 can be 3 and 2 more, 5 can also be 2 and 2 and 1).

Objective 2: Identify simple relationships among whole numbers.

- a. Develop strategies for *one-to-one correspondence* and keeping track of quantities.
- b. Compare two sets of objects to determine whether they have the same, fewer, or more elements.
- c. Order sets of objects from 1 to 9.
- d. Estimate quantities less than 10.

Objective 3: Model and illustrate meanings of the operations of addition and subtraction and describe how they relate.

- a. Demonstrate the joining and separating of sets with objects to solve problems.
- b. Describe the joining or separating of sets with informal language when using models.
- c. Record pictorially the results from the joining or separating of sets.

Standard II: Students will identify and use patterns to represent mathematical situations.

Objective 1: Identify and sort objects according to common attributes.

- a. Sort objects into groups by color, shape, size, number, or other attributes.
- b. Identify which attribute was used to sort objects into a group.
- c. Find multiple ways to sort and classify a group of objects.

Objective 2: Identify and use patterns to describe numbers or objects.

- a. Use patterns to count orally from 1 to 20 and backward from 10 to 0.
- b. Identify simple patterns in the environment.
- c. Predict what comes next in an established pattern and justify thinking.
- d. Duplicate, extend, and create simple patterns using objects and pictorial representations.

**Standard II:
Students will identify
and use patterns to
represent
mathematical
situations.**



**Standard III:
Students will
identify and create
simple geometric
shapes and
describe spatial
relationships.**

Standard III: Students will identify and create simple geometric shapes and describe spatial relationships.

Objective 1: Identify and create simple geometric shapes.

- a. Identify circles, triangles, rectangles, and squares.
- b. Combine shapes to create *two-dimensional* objects.
- c. Draw circles, triangles, rectangles, and squares.
- d. Recognize circles, triangles, rectangles, and squares in the students' environment.

Objective 2: Describe simple spatial relationships.

- a. Visualize how to fit a shape into a design.
- b. Use and demonstrate words to describe position with objects (i.e., on, over, under, above, below, top, bottom, up, down, in front of, behind, next to, beside).
- c. Use and demonstrate words to describe distance with objects (i.e., far, near).

Standard IV: Students will understand and use simple measurement tools and techniques.

Objective 1: Identify measurable attributes of objects and units of measurement.

- a. Identify clocks and calendars as tools that measure time.
- b. Identify a day, week, and month on a calendar.
- c. Identify pennies, nickels, dimes, and quarters as units of money.

Objective 2: Use appropriate techniques and tools to determine measurements.

- a. Compare two objects (e.g., shorter/longer, heavier/lighter, larger/smaller, more/less).
- b. Find the length of an object using nonstandard units (e.g., pencils, paper clips).
- c. Name the days of the week in order.
- d. Sort pennies, nickels, dimes, and quarters.

**Standard IV:
Students will
understand and use
simple measurement
tools and techniques.**

**Standard V:
Students will
collect and draw
conclusions from
data and
understand basic
concepts of
probability.**

Standard V: Students will collect and draw conclusions from data and understand basic concepts of probability.

Objective 1: Collect, organize, and display simple data.

- a. Collect, organize, and record data using objects and pictures.
- b. Represent data in a variety of ways (e.g., graphs made from people, *pictographs*, bar graphs) and interpret the data (e.g., more people like red than blue).

Objective 2: Determine the likelihood of events.

- a. Describe events encountered in books read as possible or not possible.
- b. Describe events as likely or unlikely (e.g., It is likely to snow today. It is unlikely an elephant will be in school).

Kindergarten Fine Arts, Health, Physical Education, Science, and Social Studies Core Curriculum

Standard I: Students will develop a sense of self.

Objective 1: Describe and practice responsible behaviors for health and safety.

- a. Describe proper care of the body (e.g., proper brushing of teeth, eating a variety of foods, proper hand washing, sneezing into sleeve).
- b. Recognize that food is fuel for the body.
- c. Recognize signs of physical activity (e.g., heart rate, breathing, sweat).
- d. Identify helpful and harmful substances to the body.
- e. Recall basic safety (e.g., follow rules, maintain personal space/boundaries, know phone number, address, emergency number).

Objective 2: Develop skills in gross and fine motor movement.

- a. Participate in regular physical activity that requires exertion (e.g., walk, jog, jump rope).
- b. Explore a variety of fundamental and manipulative gross motor skills (e.g., hop, skip, twirl, dance, throw, catch, kick, strike).
- c. Perform a variety of fine motor skills (e.g., draw, cut, paste, mold, write).
- d. Maintain personal space and boundaries while moving.
- e. Create and perform simple dance movements that express who one is, knowledge of the body, feelings, senses, and ideas in time and space.

Objective 3: Develop and use skills to communicate ideas, information, and feelings.

- a. Identify and express ideas, information, and feelings in a variety of ways (e.g., draw, paint, tell stories, play, make believe, dance, sing).
- b. Recognize similar colors as being members of the family of reds, blues, and yellows and shapes as being similar to squares, circles, and triangles.

Standard I:
Students will
develop a sense of
self.

- c. Describe sounds in terms of dynamics (loud/soft), pitch (high/low), duration (long/short; fast/slow), and timbre (tone of an animal, human, musical instrument, or machine).
- d. Develop competency in beat accuracy and respond to an understanding of beat as a life force through moving, singing, chanting, or playing instruments.
- e. Express emotions by selecting and playing a variety of simple rhythm instruments.

Standard II: Students will develop a sense of self in relation to families and community.

Objective 1: Describe factors that influence relationships with family and friends.

- a. Identify ways individuals are alike and different.
- b. Identify contributions of family members.
- c. Describe how children change over time.
- d. Identify behaviors to initiate play and develop friendships.
- e. Demonstrate positive interactions with peers and adults.

Objective 2: Identify important aspects of community and culture that strengthen relationships.

- a. Recognize and follow family and classroom rules.
- b. Describe the school community (e.g., students, teachers, secretary, custodian, principal).
- c. Describe resources in the community (e.g., police officer, firefighter, library, museum).
- d. Describe cultural traditions in family and community.
- e. Recognize national symbols and recite the Pledge of Allegiance.

Objective 3: Express relationships in a variety of ways.

- a. Recognize traditions, music, dances, artwork, poems, rhymes, and stories that distinguish cultures.
- b. Develop skills in storytelling through moving the body and making sounds while pretending to be characters in a familiar story.
- c. Create and perform/exhibit dances, visual art, music, and dramatic stories from various cultures.

**Standard II:
Students will develop
a sense of self in
relation to families
and community.**

**Standard III:
Students will
develop an
understanding of
their environment.**

Standard III: Students will develop an understanding of their environment.

Objective 1: Investigate changes in the seasons.

- a. Identify the seasons and represent each with pictures and songs.
- b. Observe and describe typical weather for each of the seasons.
- c. Describe the information each of the five senses provides with the changing of seasons.
- d. Observe and describe changes in behavior of animals as the seasons change.
- e. Describe how people change their behavior as the seasons change.

Objective 2: Observe and describe animals in the local environment.

- a. Observe, describe, draw, and compare familiar animals.
- b. Describe how young animals are different from adult animals.
- c. Describe how animals care for their young.
- d. Observe and imitate the sounds and movements of animals with songs, dances, and storytelling.
- e. Distinguish between real and make-believe animal behaviors.

Objective 3: Recognize symbols and models used to represent features of the environment.

- a. Recognize that maps and globes are symbols for actual places.
- b. Identify items on a map of the classroom.
- c. Explore basic map and globe directions and characteristics (e.g., top, bottom, right, left, land, water, Arctic Ocean, Antarctica).
- d. Make representations of things observed in the environment (e.g., drawing, painting, building structures with blocks, making models with clay).

K-6 Elementary Mathematics Core Curriculum in Table Format

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Standard 1: Students will understand simple number concepts and relationships.	Standard 1: Students will acquire number sense and perform simple operations with whole numbers.	Standard 1: Students will acquire number sense and perform operations with whole numbers.	Standard 1: Students will acquire number sense and perform operations with whole numbers and simple fractions.	Standard 1: Students will acquire number sense and perform operations with whole numbers, simple fractions, and decimals.	Standard 1: Students will acquire number sense and perform operations with whole numbers, simple fractions, and decimals.	Standard 1: Students will acquire number sense and perform operations with rational numbers.
Objective 1: Identify and use whole numbers. a. Relate a <i>numeral</i> to the number of objects in a set (e.g., $\square \square \square = 3$). b. Construct models of numbers to 10 with physical objects or manipulatives. c. Make pictorial representations of numbers to 10 (e.g., draw four circles, draw six squares). d. Recognize and write numerals from 0 to 10. e. Manipulate objects to demonstrate and describe multiple ways of representing a number (e.g., 5 can be 3 and 2 more, 5 can also be 2 and 2 and 1).	Objective 1: Represent whole numbers in a variety of ways. a. Relate number words to the <i>numerals</i> that represent the quantities 0 to 10. b. Sort objects into groups of tens and ones and write the numeral representing the set. c. Represent <i>whole numbers</i> up to 100 in groups of tens and ones using objects. d. Write a numeral when given the number of tens and ones. e. Write a numeral to 99 in <i>expanded form</i> (e.g., 39 is 3 tens and 9 ones or 30+9). f. Use zero to represent the number of elements in the empty set or as a placeholder in a two-digit numeral.	Objective 1: Represent whole numbers in a variety of ways. a. Relate number words to the <i>numerals</i> that represent the quantities 0-100. b. Represent <i>whole numbers</i> up to 1,000 in groups of hundreds, tens, and ones using base ten models, and write the numeral representing the set. c. Read and write a three-digit numeral, relating it to a set of objects and a pictorial representation. d. Write a numeral to 999 in <i>expanded form</i> (e.g., 539 is 5 hundreds, 3 tens, 9 ones or 500+30+9). e. Identify the place and the value of a given digit in a three-digit numeral (e.g., the two in 281 means 2 hundreds or 200). f. Demonstrate multiple ways to represent numbers using symbolic representations (e.g., thirty is the same as two groups of 15, the number of pennies in three dimes, or 58-28).	Objective 1: Represent whole numbers in a variety of ways. a. Model, read, and write <i>whole numbers</i> up to 10,000 using base ten models, pictures, and symbols. b. Write a <i>numeral</i> when given the number of thousands, hundreds, tens, and ones. c. Write a number up to 9,999 in <i>expanded form</i> (e.g., 6,539 is 6 thousands, 5 hundreds, 3 tens, 9 ones or 6000+500+30+9). d. Identify the place and the value of a given digit in a four-digit numeral. e. Demonstrate multiple ways to represent numbers using models and symbolic representations (e.g., fifty is the same as two groups of 25, the number of pennies in five dimes, or 75-25).	Objective 1: Represent whole numbers and decimals in a variety of ways. a. Model, read, and write numerals from tenths to 100,000. b. Write a <i>whole number</i> up to 99,999 in <i>expanded form</i> (e.g., 76,539 is 7 ten-thousands, 6 one-thousands, 5 hundreds, 3 tens, 9 ones or 70,000+6,000+500+30+9). c. Identify the place and the value of a given digit in a five-digit numeral, including decimals to tenths. d. Demonstrate multiple ways to represent numbers by using models and symbolic representations (e.g., 108=2x50+8; 108=10 ² + 8). e. Classify whole numbers from 2 to 20 as <i>prime</i> or <i>composite</i> and 0 and 1 as neither <i>prime</i> nor <i>composite</i> , using models. f. Represent repeated factors using <i>exponents</i> up to three (e.g., 8=2x2x2=2 ³).	Objective 1: Represent whole numbers and decimals in a variety of ways. a. Change <i>whole numbers</i> with <i>exponents</i> to <i>standard form</i> (e.g., 2 ⁴ = 2x4=16) and recognize that 10 ⁰ = 1. b. Read and write <i>numerals</i> from thousandths to one billion. c. Write a whole number to 999,999 in <i>expanded form</i> using <i>exponents</i> (e.g., 876,539 = 8 x 10 ⁵ + 7 x 10 ⁴ + 6 x 10 ³ + 5 x 10 ² + 3 x 10 ¹ + 9 x 10 ⁰). d. Express numbers in <i>scientific notation</i> using positive powers of ten. e. Classify whole numbers to 100 as <i>prime</i> , <i>composite</i> , or neither. f. Determine the <i>prime factorization</i> for a whole number up to 50.	

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
<p>Objective 2: Identify simple relationships among whole numbers.</p> <p>a. Develop strategies for <i>one-to-one</i> correspondence and keeping track of quantities.</p> <p>b. Compare two sets of objects to determine whether they have the same, fewer, or more elements.</p> <p>c. Order sets of objects from 1 to 9.</p> <p>d. Estimate quantities less than 10.</p>	<p>Objective 2: Identify simple relationships among whole numbers.</p> <p>a. Identify the number that is one more or one less than any <i>whole number</i> from 1 to 99.</p> <p>b. Use the vocabulary “greater than,” “less than,” and “equal to” when comparing sets of objects or numbers.</p> <p>c. Order sets of objects and numbers from 0 to 20.</p> <p>d. Use ordinal numbers 1st through 5th (i.e., 1st, 2nd, 3rd, 4th, 5th).</p>	<p>Objective 2: Identify simple relationships among whole numbers.</p> <p>a. Identify the number that is one more, one less, ten more, or ten less than any <i>whole number</i> up to 100.</p> <p>b. Write number sentences using the terms “greater than,” “less than,” or “equal to,” to compare numbers.</p> <p>c. Order four whole numbers less than 100 from least to greatest and from greatest to least.</p> <p>d. Use <i>ordinal numbers</i> 1st through 10th.</p>	<p>Objective 2: Identify relationships among whole numbers.</p> <p>a. Use a variety of strategies to determine whether a number is even or odd.</p> <p>b. Identify the number that is ten more, ten less, 100 more, or 100 less than any <i>whole number</i> up to 1,000.</p> <p>c. Compare the relative size of numbers (e.g., 31 is large compared to 4, about half as big as 60, close to 27).</p> <p>d. Compare whole numbers up to four digits using the symbols $<$, $>$, and $=$.</p> <p>e. Order and compare whole numbers on a number line.</p>	<p>Objective 2: Identify relationships among whole numbers and decimals.</p> <p>a. Identify the number that is 100 more, 100 less, 1,000 more, or 1,000 less than any <i>whole number</i> up to 10,000.</p> <p>b. Compare the relative size of numbers (e.g., 100 is small compared to a million, but large compared to 5).</p> <p>c. Compare whole numbers up to five digits using the symbols $<$, $>$, and $=$.</p> <p>d. Identify a whole number that is between two given whole numbers.</p> <p>e. Order and compare whole numbers and decimals to tenths on a number line.</p>	<p>Objective 2: Identify relationships among whole numbers, fractions, decimals, and percents.</p> <p>a. Order and compare (<i>whole numbers</i>, fractions (including mixed numbers), and decimals using a variety of methods and symbols.</p> <p>b. Rewrite mixed numbers and improper fractions from one form to the other.</p> <p>c. Find the least common denominator for two fractions.</p> <p>d. Represent commonly used fractions as decimals and percents in various ways (e.g., objects, pictures, calculators).</p>	<p>Objective 2: Identify relationships among whole numbers, fractions (rational numbers), decimals, and percents.</p> <p>a. Find the <i>greatest common factor</i> and <i>least common multiple</i> for two numbers using a variety of methods (e.g., list of multiples, prime factorization).</p> <p>b. Order and compare <i>rational numbers</i>, including mixed numbers, using a variety of methods and symbols.</p> <p>c. Locate positive rational numbers on a number line.</p> <p>d. Convert common fractions, decimals, and percents from one form to another (e.g., $\frac{3}{4} = 0.75 = 75\%$).</p>

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
<p>Objective 3: Model and illustrate meanings of the operations of addition and subtraction and describe how they relate.</p> <p>a. Demonstrate the joining and separating of sets of objects to solve problems.</p> <p>b. Describe the joining or separating of sets with informal language when using models.</p> <p>c. Record pictorially the results from the joining or separating of sets.</p>	<p>Objective 3: Model and illustrate meanings of the operations of addition and subtraction and describe how they relate.</p> <p>a. Demonstrate the joining and separating of sets with twelve or fewer objects and record the results with pictures or symbols.</p> <p>b. Model two meanings of subtraction: separating of sets ("take away") and comparison of sets ("how many more/fewer") using objects, pictorial representations, and symbols.</p> <p>c. Use correct vocabulary and symbols to describe addition (i.e., add, "and," plus, +, sum), subtraction (i.e., subtract, minus, -, take away, how many more/fewer), and equals (i.e., =, same as).</p> <p>d. Use zero in addition and subtraction sentences.</p>	<p>Objective 3: Model and illustrate meanings of the operations of addition and subtraction and describe how they relate.</p> <p>a. Demonstrate the joining and separating of sets with eighteen or fewer objects and record the results with pictures or symbols.</p> <p>b. Model three meanings of subtraction: separating of sets ("take away"), comparison of sets ("how many more/fewer"), and missing addends using objects, pictorial representations, and symbols.</p> <p>c. Separate a given set of objects into two, three, five, or ten groups of equal size.</p> <p>d. Model addition and subtraction of two-digit whole numbers in a variety of ways.</p> <p>e. Select an addition or subtraction sentence to solve a problem involving joining or separating of sets with eighteen or fewer objects.</p> <p>f. Recognize that addition number sentences have related subtraction sentences (e.g., $8+5=3$, $3+5=8$).</p>	<p>Objective 3: Model and illustrate meanings of the operations of addition, subtraction, and division and describe how they relate.</p> <p>a. Model addition and subtraction of two- and three-digit whole numbers in a variety of ways.</p> <p>b. Model multiplication of a one-digit factor by a one-digit factor using various methods (e.g., repeated addition, rectangular arrays, manipulatives, pictures) and connect the representation to an algorithm.</p> <p>c. Model division as sharing equally and as repeated subtraction using various methods (e.g., rectangular arrays, manipulatives, number lines, pictorial representations).</p> <p>d. Demonstrate, using objects, that multiplication and division are inverse operations (e.g., $3 \times 4 = 12$; thus, $12 \div 4 = 3$ and $12 \div 3 = 4$).</p> <p>e. Select and write an addition, subtraction, or multiplication sentence to solve a problem related to the students' environment, and write a story problem that relates to a given equation.</p> <p>f. Demonstrate the effects of place value when multiplying whole numbers by 10.</p>	<p>Objective 3: Model and illustrate meanings of the operations and describe how they relate.</p> <p>a. Use models to represent multiplication of a one- or two-digit factor by a two-digit factor (up to 30) using a variety of methods (e.g., rectangular arrays, manipulatives, pictures) and connect the representation to an algorithm.</p> <p>b. Recognize that division by zero is not possible (e.g., $6 \div 0$ is undefined).</p> <p>c. Select and write a multiplication or division sentence to solve a problem related to the students' environment and write a story problem that relates to a given equation.</p> <p>d. Represent division of a two-digit dividend by a one-digit divisor, including whole number remainders, using various methods (e.g., rectangular arrays, manipulatives, pictures) and connect the representation to an algorithm.</p> <p>e. Demonstrate that multiplication and division are inverse operations (e.g., $3 \times 4 = 12$; thus, $12 \div 4 = 3$ and $12 \div 3 = 4$).</p> <p>f. Describe the effect of place value when multiplying whole numbers by 10 and 100.</p>	<p>Objective 3: Model and illustrate meanings of operations and describe how they relate.</p> <p>a. Identify the <i>dividend</i>, <i>divisor</i>, and <i>quotient</i> regardless of the division symbol used.</p> <p>b. Determine whether a whole number is divisible by 2, 3, 5, 9, and/or 10, using the <i>rules of divisibility</i>.</p> <p>c. Represent remainders as <i>whole numbers</i>, decimals, or fractions and describe the meaning of remainders as they apply to problems from the students' environment (e.g., If there are 53 people, how many vans are needed if each van holds 8 people?).</p> <p>d. Model addition, subtraction, and multiplication of fractions and decimals in a variety of ways (e.g., using objects and a number line).</p> <p>e. Select or write the number sentences that can be used to solve a two-step problem.</p> <p>f. Model different strategies for whole number multiplication (e.g., partial product, lattice) and division (e.g., partial quotient).</p> <p>g. Describe the effect on place value when multiplying and dividing whole numbers and decimals by 10, 100, and 1,000.</p>	<p>Objective 3: Model and illustrate meanings of operations and describe how they relate.</p> <p>a. Represent division of a multi-digit dividend by two-digit divisors, including decimals, using models, pictures, and symbols.</p> <p>b. Model addition, subtraction, and multiplication, and division of fractions and decimals in a variety of ways (e.g., objects, a number line).</p> <p>c. <i>Apply rules of divisibility</i>.</p> <p>d. Select or write a number sentence that can be used to solve a multi-step problem and write a word problem when given a two-step expression or equation.</p>

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
	<p>Objective 4: Use fractions to identify parts of the whole.</p> <p>a. Share sets of up to ten objects between two students and identify each part as half.</p> <p>b. Divide geometric shapes into equal parts, identifying halves and fourths.</p>	<p>Objective 4: Use fractions to identify parts of the whole.</p> <p>a. Separate geometric shapes and sets of objects into halves, thirds, and fourths using a variety of models and illustrations.</p> <p>b. Specify a region of a geometric shape (e.g., as “$\frac{1}{2}$ out of $\frac{1}{2}$ equal parts” when given four or fewer equal parts.</p> <p>c. Represent the unit fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ with objects, pictures, and symbols.</p>	<p>Objective 4: Use fractions to communicate parts of the whole.</p> <p>a. Identify the denominator of a fraction as the number of equal parts in the whole region or set.</p> <p>b. Identify the numerator of a fraction as the number of equal parts being considered.</p> <p>c. Divide <i>regions</i> and sets of objects into equal parts using a variety of models and illustrations.</p> <p>d. Name and write a fraction to represent a portion of a unit whole for halves, thirds, fourths, sixths, and eighths.</p> <p>e. Determine which of two fractions is greater using models or illustrations.</p>	<p>Objective 4: Use fractions to communicate parts of the whole.</p> <p>a. Divide regions and sets of objects into equal parts using a variety of models and illustrations.</p> <p>b. Name and write a fraction to represent a portion of a unit whole for halves, thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.</p> <p>c. Represent the simplest form of a fraction in various ways (e.g., objects, pictorial representations, symbols).</p> <p>d. Represent mixed numbers and improper fractions in various ways (e.g., rulers, objects, number lines, symbols).</p> <p>e. Rename <i>whole numbers</i> as fractions with different denominators (e.g., $5=5/1$, $3=6/2$, $1=7/7$).</p> <p>f. Model and calculate equivalent forms of a fraction and describe the process used.</p>	<p>Objective 4: Use fractions to communicate parts of the whole.</p> <p>a. Divide regions, sets of objects, and <i>line segments</i> into equal parts using a variety of models and illustrations.</p> <p>b. Name and write a fraction to represent a portion of a unit whole for halves, thirds, fourths, fifths, sixths, eighths, tenths, twelfths, and sixteenths.</p> <p>c. Write a fraction or ratio in simplest form.</p> <p>d. Name equivalent forms for fractions (halves, thirds, fourths, fifths, tenths), ratios, percents, and decimals, including repeating or terminating decimals.</p> <p>e. Relate percents less than 1% or greater than 100% to equivalent fractions, decimals, <i>whole numbers</i>, and mixed numbers.</p>	

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
	<p>Objective 5: Solve whole number problems using addition and subtraction in horizontal and vertical notation.</p> <p>a. Compute addition and subtraction facts to twelve.</p> <p>b. Add three whole numbers with sums to twelve.</p>	<p>Objective 5: Solve whole number problems using addition and subtraction in vertical and horizontal notation.</p> <p>a. Use a variety of methods and tools to facilitate computation (e.g., estimation, mental math strategies, paper and pencil, calculator).</p> <p>b. Compute accurately with basic number combinations for addition and subtraction facts to eighteen.</p> <p>c. Add three <i>whole numbers</i> with <i>sums</i> to eighteen.</p> <p>d. Find the sum of two-digit whole numbers and describe the process used.</p>	<p>Objective 5: Solve whole number problems using addition, subtraction, multiplication, and division in vertical and horizontal notation.</p> <p>a. Use a variety of methods and tools to facilitate computation (e.g., estimation, mental math strategies, paper and pencil, calculator).</p> <p>b. Find the sum of any two <i>addends</i> with three or fewer digits, including monetary amounts, and describe the process used.</p> <p>c. Find the <i>difference</i> of two-digit <i>whole numbers</i> and describe the process used.</p> <p>d. Find the <i>product</i> for multiplication facts through ten times ten and describe the process used.</p>	<p>Objective 5: Solve whole number problems using addition, subtraction, multiplication, and division in vertical and horizontal notation.</p> <p>a. Determine when it is appropriate to use estimation, mental math strategies, paper and pencil, or a calculator.</p> <p>b. Find the sum and difference of four-digit numbers, including monetary amounts, and describe the process used.</p> <p>c. Multiply two- and three-digit <i>factors</i> by a one-digit <i>factor</i> and describe the process used.</p> <p>d. Divide a two-digit <i>whole number</i> <i>dividend</i> by a one-digit <i>divisor</i>, with a <i>remainder</i> of zero and describe the process used.</p>	<p>Objective 5: Solve problems using the four operations with whole numbers, decimals, and fractions.</p> <p>a. Determine when it is appropriate to use estimation, mental math strategies, paper and pencil, or a calculator.</p> <p>b. Use estimation strategies to determine whether results obtained using a calculator are reasonable.</p> <p>c. Multiply up to a three-digit <i>whole number</i> by a one- or two-digit whole number.</p> <p>d. Divide up to a three-digit whole number <i>dividend</i> by a one-digit <i>divisor</i>, including decimals.</p> <p>e. Add and subtract decimals with digits to the hundredths place (e.g., $35.42 + 7.2$; $75.2 - 13.45$).</p> <p>f. Add, subtract, and multiply fractions.</p> <p>g. Simplify <i>expressions</i>, without <i>exponents</i>, using the <i>order of operations</i>.</p>	<p>Objective 5: Solve problems using the four operations with whole numbers, decimals, and fractions.</p> <p>a. Determine when it is appropriate to use estimation, mental math strategies, paper and pencil, or a calculator.</p> <p>b. Use estimation strategies to determine whether results obtained using a calculator are reasonable.</p> <p>c. Multiply up to a three-digit <i>factor</i> by a one- or two-digit factor including decimals.</p> <p>d. Divide up to a three-digit <i>dividend</i> by a one- or two-digit <i>divisor</i> including decimals.</p> <p>e. Add and subtract decimals to the thousandths place (e.g., $34.567 + 3.45$; $65.3 - 5.987$).</p> <p>f. Add, subtract, multiply, and divide fractions and mixed numbers.</p> <p>g. Solve problems using ratios and proportions.</p> <p>h. Simplify <i>expressions</i>, with <i>exponents</i>, using the <i>order of operations</i>.</p>

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Standard II: Students will identify and use patterns to represent mathematical situations.	Standard II: Students will identify and use patterns and relations to represent mathematical situations.	Standard II: Students will identify and use patterns and relations to represent mathematical situations.	Standard II: Students will use patterns and relations to represent mathematical situations.	Standard II: Students will use patterns and relations to represent mathematical situations.	Objective 6: Model and illustrate integers. a. Identify, read, and locate <i>integers</i> on a number line. b. Describe situations where integers are used in the students' environment.	Objective 6: Model, illustrate, and perform the operations of addition and subtraction of integers. a. Recognize that the sum of an <i>integer</i> and its opposite is zero. b. Model addition and subtraction of integers using manipulatives and a number line. c. Add and subtract integers.
Standard II: Students will identify and use patterns to represent mathematical situations.	Standard II: Students will identify and use patterns and relations to represent mathematical situations.	Standard II: Students will identify and use patterns and relations to represent mathematical situations.	Standard II: Students will use patterns and relations to represent mathematical situations.	Standard II: Students will use patterns and relations to represent mathematical situations using algebraic symbols.	Standard II: Students will use patterns and relations to represent and analyze mathematical situations using algebraic symbols.	Standard II: Students will use patterns, relations, and functions to represent and analyze mathematical situations using algebraic symbols.
Objective 1: Identify and sort objects according to common attributes. a. Sort objects into groups by color, shape, size, number, or other <i>attributes</i> . b. Identify which attribute was used to sort objects into a group. c. Find multiple ways to sort and classify a group of objects.	Objective 1: Recognize and represent patterns with one or two attributes. a. Sort and classify objects by one or two <i>attributes</i> . b. Identify, create, and label simple patterns using manipulatives, pictures, and symbolic notation (e.g., ABAB . . . , $\square \bigcirc \square \bigcirc \triangle \dots$). c. Identify patterns in the environment. d. Identify horizontal and vertical patterns on hundreds charts. e. Use patterns to establish skip counting by twos to 20 and by fives and tens to 100. f. Count backward from 10 to 0 and identify the pattern.	Objective 1: Recognize and represent patterns having multiple attributes. a. Sort, classify, and label objects by three or more <i>attributes</i> . b. Identify and label repeating and <i>growing patterns</i> using objects, pictures, and symbolic notation (e.g., ABAABBAABBB...). c. Identify repeating and growing patterns in the environment. d. Construct models and skip count by twos, threes, fives, and tens and relate to repeated addition.	Objective 1: Recognize and create patterns with given attributes. a. Create and extend <i>repeating</i> and <i>growing</i> patterns using objects, numbers, and tables. b. Record results of manipulatives, pictures, and numeric representations and describe how they are extended.	Objective 1: Recognize, describe, and use patterns and identify the attributes. a. Represent and analyze repeating and growing patterns using objects, pictures, numbers, and tables. b. Recognize and extend multiples and other number patterns using a variety of methods.	Objective 1: Recognize, analyze, and use patterns and describe their attributes. a. Analyze and make predictions about patterns involving <i>whole numbers</i> , decimals, and fractions using a variety of tools including organized lists, tables, objects, and variables. b. Extend patterns and describe a rule for predicting the next element.	Objective 1: Recognize, analyze, and use multiple representations of patterns and functions and describe their attributes. a. Analyze patterns on graphs and tables and write a generalization to predict how the patterns will continue. b. Create tables and graphs to represent given patterns and algebraic <i>expressions</i> . c. Draw a graph from a table of values or to represent an equation. d. Write an algebraic expression from a graph or a table of values.

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Objective 2: Identify and use patterns to describe numbers or objects. a. Use patterns to count orally from 1 to 20 and backward from 10 to 0. b. Identify simple patterns in the environment. c. Predict what comes next in an established pattern and justify thinking. d. Duplicate, extend, and create simple patterns using objects and pictorial representations.	Objective 2: Recognize and represent relations using mathematical symbols. a. Recognize that “=” indicates a relationship in which the quantities on each side of an equation are equal. b. Recognize that symbols such as \square , \triangle , or \diamond in an addition or subtraction equation represent a missing value that will make the statement true (e.g., $\square + 3 = 6$, $5 + 7 = \triangle$, $4 = 5 - \diamond$). c. Demonstrate that changing the order of addends does not change the sum (e.g., $3+2=5$ and $2+3=5$).	Objective 2: Recognize and represent mathematical situations using patterns and symbols. a. Recognize that symbols such as \square , \triangle , or \diamond in an addition, subtraction, or multiplication equation, represent a value that will make the statement true (e.g., $5+7=\triangle$, $\square-3=6$, $\diamond=2\times4$). b. Solve equations involving equivalent expressions (e.g., $6+4=\square+7$). c. Use the $>$, $<$, and $=$ symbols to compare two expressions involving addition and subtraction (e.g., $4+6 \square 3+2$; $3+5 \diamond 16-9$). d. Demonstrate that grouping three or more addends does not change the sum (e.g., $(2+3)+7=12$, $2+(3+7)=12$).	Objective 2: Recognize and represent mathematical situations using patterns and symbols. a. Solve equations involving equivalent expressions (e.g., $6\times2=\square\times3$ or $6\times\square=9+9$). b. Use the $<$, $>$, $=$ symbols to compare two expressions involving addition, subtraction, multiplication, and division (e.g., $5\times4 \diamond 9+3$). c. Recognize that a given variable maintains the same value throughout an equation or expression (e.g., $\square+\square=8$; $\square=4$). d. Demonstrate that changing the order of factors does not change the product (e.g., $2\times3=6$, $3\times2=6$) and that the grouping of three or more factors does not change the product (e.g., $(2\times3)\times1=6$; $2\times(3\times1)=6$). e. Demonstrate the distributive property of multiplication over addition using a rectangular array (e.g., $8\times14=8$ rows of 10 plus 8 rows of 4).	Objective 2: Recognize, solve, and analyze mathematical situations using algebraic symbols. a. Recognize a variety of symbols for multiplication and division including \times , \bullet , and $*$ as symbols for multiplication and \div , Γ , and a fraction bar ($/$ or $-$) as division symbols. b. Recognize that a variable (\diamond , n , x) represents an unknown quantity. c. Solve one-step equations involving whole numbers and a single variable (e.g., $n+7=3$). d. Recognize that the answer to a multiplication problem involving a factor of zero is equal to zero (e.g., $0\times45=0$). e. Use expressions or one-step equations to represent real-world situations. f. Use the associative, commutative, and distributive properties to compute with whole numbers.	Objective 2: Represent, solve, and analyze mathematical situations using algebraic symbols. a. Recognize that a number in front of a variable indicates multiplication (e.g., $3y$ means 3 times the quantity y). b. Solve two-step equations involving whole numbers and a single variable (e.g., $3x+4=19$). c. Recognize that “ \approx ” indicates a relationship in which the quantities on each side are approximately of equal value (e.g., $\pi \approx 3.14$). d. Recognize that an exponent can be represented in the following ways: 4^3 or $4\wedge3$. e. Evaluate expressions and formulas, substituting given values for the variables (e.g., $2x+4$; $x=2$; therefore, $2(2)+4=8$). f. Recognize that if the product is zero, then one or more factors equal zero (i.e., if $ab=0$ then either $a=0$ or $b=0$ or a and $b=0$).	

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Standard III: Students will identify and create simple geometric shapes and describe spatial relationships.	Standard III: Students will describe, identify, and create and simple geometric shapes and describe spatial relationships.	Standard III: Students will describe, identify, and create geometric shapes and describe spatial relationships.	Standard III: Students will use spatial reasoning to describe, identify, and create geometric shapes.	Standard III: Students will use spatial reasoning to recognize, describe, and identify geometric shapes.	Standard III: Students will use spatial reasoning to recognize, describe, and identify geometric shapes and principles.	Standard III: Students will use spatial and logical reasoning to recognize, describe, and identify geometric shapes and principles.
Objective 1: Identify and create simple geometric shapes. a. Identify circles, triangles, rectangles, and squares. b. Combine shapes to create <i>two-dimensional</i> objects. c. Draw circles, triangles, rectangles, and squares. d. Recognize circles, triangles, rectangles, and squares in the students' environment.	Objective 1: Describe, identify, and create simple geometric shapes. a. Identify, name, draw, create, and sort circles, triangles, rectangles, and squares. b. Identify circles, triangles, rectangles, and squares in the students' environment. c. Recognize that combining simple geometric shapes can create more complex geometric shapes.	Objective 1: Describe, identify, and create geometric shapes. a. Identify, name, draw, sort, and compare circles, triangles, and <i>parallelograms</i> . b. Identify and name spheres, cones, and cylinders. c. Find and identify familiar geometric shapes in the students' environment. d. Determine whether a circle, triangle, square, or rectangle has a <i>line of symmetry</i> .	Objective 1: Describe, identify, and create geometric shapes. a. Identify and draw <i>points</i> , <i>lines</i> , <i>line segments</i> , and <i>endpoints</i> . b. Identify and draw <i>lines of symmetry</i> on triangles, squares, circles, and rectangles. c. Determine whether an angle is <i>right</i> , <i>obtuse</i> , or <i>acute</i> by comparing the angle to the corner of a rectangle. d. Classify polygons (e.g., <i>quadrilaterals</i> , pentagons, hexagons, octagons) by the number of sides and corners. e. Identify, make, and describe cubes (e.g., a cube has 6 square <i>faces</i> , 8 <i>vertices</i> , and 12 <i>edges</i>).	Objective 1: Describe, identify, and analyze characteristics and properties of geometric shapes. a. Identify and draw <i>parallel lines</i> and <i>intersecting lines</i> . b. Identify and draw lines of symmetry on a variety of <i>polygons</i> . c. Identify and describe <i>quadrilaterals</i> (i.e., rectangles, squares, <i>rhombuses</i> , <i>trapezoids</i> , kites). d. Identify <i>right</i> , <i>obtuse</i> , and <i>acute</i> angles. e. Compare two polygons to determine whether they are <i>congruent</i> or <i>similar</i> . f. Identify and describe <i>cylinders</i> and <i>rectangular prisms</i> .	Objective 1: Describe, identify, and analyze characteristics and properties of geometric shapes. a. Identify and draw <i>perpendicular lines</i> . b. Draw, label, and describe rays and describe an angle as two rays sharing a common endpoint. c. Label an angle as acute, <i>obtuse</i> , <i>right</i> , or <i>straight</i> . d. Identify and describe <i>equilateral</i> , <i>isosceles</i> , <i>scalene</i> , <i>right</i> , <i>acute</i> , and <i>obtuse</i> triangles. e. Identify the <i>vertex</i> of an angle or the <i>vertices</i> of a polygon. f. Compare <i>corresponding angles</i> of two triangles and determine whether the triangles are <i>similar</i> . g. Identify and describe <i>pyramids</i> and <i>prisms</i> .	Objective 1: Identify and analyze characteristics and properties of geometric shapes. a. Identify the <i>midpoint</i> of a <i>line segment</i> . b. Identify concave and <i>convex polygons</i> . c. Identify the center, <i>radius</i> , <i>diameter</i> , and <i>circumference</i> of a circle. d. Identify the number of <i>faces</i> , <i>edges</i> , and <i>vertices</i> of <i>pyramids</i> and <i>prisms</i> .

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Objective 2: Describe simple spatial relationships. a. Visualize how to fit a shape into a design. b. Use and demonstrate words to describe position with objects (i.e., on, over, under, above, below, top, bottom, up, down, in front of, behind, next to, beside). c. Use and demonstrate words to describe distance with objects (i.e., far, near).	Objective 2: Describe simple spatial relationships. a. Use and demonstrate words to describe position (i.e., between, before, after, middle, left, right). b. Use and demonstrate words to describe distance (i.e., closer, farther).	Objective 2: Describe spatial relationships. a. Create and use verbal or written instructions to move within the environment. b. Find and name locations using coordinates (A, 1). c. Identify shapes in various orientations (e.g., Δ and ∇).	Objective 2: Describe spatial relationships. a. Give directions to reach a location. b. Use coordinates (A, 1) or regions to locate positions on a map. c. Demonstrate and use horizontal and vertical lines.	Objective 2: Specify locations and describe spatial relationships using grids and maps. a. Locate positions on a map of Utah using coordinates or regions. b. Give the <i>coordinates</i> or <i>regions</i> of a position on a map of Utah.	Objective 2: Specify locations and describe spatial relationships using coordinate geometry. a. Locate points defined by ordered pairs in the first <i>quadrant</i> . b. Write an ordered pair for a point in the first quadrant. c. Specify possible paths between locations on a <i>coordinate grid</i> and compare distances of the various paths.	Objective 2: Specify locations and describe spatial relationships using coordinate geometry. a. Graph points defined by ordered pairs in all four quadrants. b. Write the ordered pair for a point in any quadrant.
			Objective 3: Visualize and identify geometric shapes after applying transformations. a. Demonstrate the effect of a slide (translation) or flip (reflection) on a figure, using manipulatives. b. Determine whether two polygons are <i>congruent</i> by sliding, flipping, or turning to physically fit one object on top of the other. c. Identify <i>two-dimensional</i> shapes (<i>nets</i>) that will fold to make a cube. d. Create a <i>polygon</i> that results from combining other polygons.	Objective 3: Visualize and identify geometric shapes after applying transformations. a. Identify a <i>slide</i> (<i>translation</i>) or <i>flip</i> (<i>reflection</i>) on a figure using manipulatives. b. Relate <i>cubes</i> , <i>cylinders</i> , <i>cones</i> , and <i>rectangular prisms</i> to the <i>two-dimensional</i> shapes (<i>nets</i>) from which they were created.	Objective 3: Visualize and identify geometric shapes after applying transformations. a. Identify a <i>slide</i> (<i>translation</i>) or <i>flip</i> (<i>reflection</i>) on a figure across a line. b. Demonstrate the effect of a <i>turn</i> (<i>rotation</i>) on a figure using manipulatives. c. Relate <i>pyramids</i> and <i>prisms</i> to the <i>two-dimensional</i> shapes (<i>nets</i>) from which they were created.	Objective 3: Visualize and identify geometric shapes after applying transformations. a. <i>Turn</i> (<i>rotate</i>) a shape around a point and identify the location of the new vertices. b. <i>Slide</i> (<i>translate</i>) a polygon either horizontally or vertically on a coordinate grid and identify the location of the new vertices. c. <i>Flip</i> (<i>reflect</i>) a shape across either the x- or y-axis and identify the location of the new vertices.

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Standard IV: Students will understand and use simple measurement tools and techniques.	Standard IV: Students will understand and use simple measurement tools and techniques.	Standard IV: Students will understand and use measurement tools and techniques.	Standard IV: Students will understand and use measurement tools and techniques.	Standard IV: Students will understand and use measurement tools and techniques.	Standard IV: Students will understand and apply measurement tools and techniques.	Standard IV: Students will understand and apply measurement tools and techniques.
Objective 1: Identify measurable attributes of objects and units of measurement. a. Identify clocks and calendars as tools that measure time. b. Identify a day, week, and month on a calendar. c. Identify pennies, nickels, dimes, and quarters as units of money.	Objective 1: Identify measurable attributes of objects and units of measurement. a. Identify the appropriate tools for measuring length, weight, capacity, temperature, and time. b. Identify the values of a penny, nickel, dime, and quarter. c. Estimate the length of an object by comparing to a nonstandard unit (e.g., How many new pencils wide is your desk?).	Objective 1: Identify measurable attributes of objects and units of measurement. a. Sequence a series of events of a day in order by time (e.g., breakfast at 7:00, school begins at 9:00). b. Identify the name and value of a penny, nickel, dime, quarter, and dollar. c. Estimate length, capacity, and weight using customary units.	Objective 1: Identify and describe measurable attributes of objects and units of measurement. a. Recognize the two systems of measurement: <i>metric</i> and <i>customary</i> . b. Describe the relationship between metric units of length (i.e., centimeter, meter). c. Describe the relationship among customary units of length (i.e., inch, foot, yard) and the relationship between customary units of capacity (i.e., cup, quart). d. Estimate length, capacity, and weight using metric and customary units.	Objective 1: Identify and describe measurable attributes of objects and units of measurement. a. Describe the relationship among <i>metric</i> units of length (i.e., millimeter, centimeter, meter), between metric units of capacity (i.e., milliliter, liter), and between metric units of weight (i.e., gram, kilogram). b. Identify a mile as a measure of distance and its relationship to other <i>customary</i> units of length. c. Describe the relationship among customary units of <i>capacity</i> (i.e., cup, pint, quart, gallon). d. Estimate length, capacity, and weight using metric and customary units.	Objective 1: Identify and describe measurable attributes of objects and units of measurement. a. Describe the relationship among <i>metric</i> units of length (i.e., millimeter, centimeter, meter, kilometer). b. Describe the relationship among <i>customary</i> units of weight (i.e., ounce, pound). c. Identify the correct units of measurement for <i>volume</i> , <i>area</i> , and <i>perimeter</i> in both metric and customary systems. d. Estimate length, volume, weight, and area using <i>metric</i> and customary units. e. Convert units of measurement within the metric system and convert units of measurement within the customary system.	Objective 1: Identify and describe measurable attributes of objects and units of measurement. a. Compare a meter to a yard, a liter to a quart, and a kilometer to a mile. b. Identify <i>pi</i> as the ratio of the <i>circumference</i> to <i>diameter</i> of a circle. c. Explain how the size of the unit used in measuring affects the precision. d. Estimate length, volume, weight, and area using <i>metric</i> and customary units.

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Objective 2: Use appropriate techniques and tools to determine measurements. <ol style="list-style-type: none"> Compare two objects (e.g., shorter/longer, heavier/lighter, larger/smaller, more/less). Find the length of an object using nonstandard units (e.g., pencils, paper clips). Name the days of the week in order. Sort pennies, nickels, dimes, and quarters. 	Objective 2: Use appropriate techniques and tools to determine measurements. <ol style="list-style-type: none"> Compare objects, using nonstandard units, according to their length, weight, or volume (e.g., pencils/length, books/weight, boxes/volume). Read and tell time to the nearest hour. Name the days of the week, months of the year, and seasons in order. Determine the value of a set of the same coins that total 25¢ or less (e.g., a set of 14 pennies equals 14¢, a set of 5 nickels equals 25¢, a set of 2 dimes equals 20¢). 	Objective 2: Use appropriate techniques and tools to determine measurements. <ol style="list-style-type: none"> Compare and order objects, using nonstandard units, according to their length, weight, or capacity. Measure length using inches and feet, weight using pounds, and capacity using cups. Determine the value of a set of up to five coins that total \$1.00 or less (e.g., two quarters and one dime equals 60¢; three dimes, one nickel, and one penny equals 36¢). Read, tell, and write time to the hour and half-hour. Use a calendar to determine the day of the week and date. Determine the perimeter of a square, triangle, and rectangle by measuring with nonstandard units. 	Objective 2: Use appropriate techniques and tools to determine measurements. <ol style="list-style-type: none"> Measure the length of objects to the nearest centimeter, meter, half-inch, foot, and yard. Measure capacity using cups and quarts, and measure weight using pounds. Determine the value of a combination of coins and bills that total \$5.00 or less and write the monetary amounts using the dollar sign and decimal notation. Identify the number of hours in a day, the number of days in a year, and the number of weeks in a year. Read, tell, and write time to the quarter-hour. Identify any given day of the month (e.g., the third Wednesday of the month is the 18th). Read and record the temperature to the nearest ten degrees using a Fahrenheit thermometer. Estimate and measure the perimeter and area of rectangles by measuring with nonstandard units. 	Objective 2: Determine measurements using appropriate tools and formulas. <ol style="list-style-type: none"> Measure the length of objects to the nearest centimeter, meter, quarter-inch, foot, and yard. Measure capacity using milliliters, liters, cups, pints, quarts, and gallons and measure weight using grams, kilograms, and pounds. Read, tell, and write time to the nearest minute, identifying a.m. and p.m. Read and record the temperature to the nearest degree, in Fahrenheit, using a thermometer. Determine the value of a combination of coins and bills that total \$20.00 or less. Count back change for a single-item purchase and determine the amount of change to be received from a multiple-item purchase. Determine possible perimeters, in whole units, for a rectangle with a fixed area and determine possible areas when given a rectangle with a fixed perimeter. 	Objective 2: Determine measurements using appropriate tools and formulas. <ol style="list-style-type: none"> Measure length to the nearest 1/8 of an inch and to the nearest centimeter. Measure volume and weight using metric and customary units. Measure angles using a protractor. Calculate elapsed time within a.m. or p.m. time periods. Read and record the temperature to the nearest degree (above and below zero) when using a thermometer with a Celsius or Fahrenheit scale. Calculate the perimeter of rectangles and triangles. Calculate the area of squares and rectangles using a formula. 	Objective 2: Determine measurements using appropriate tools and formulas. <ol style="list-style-type: none"> Measure length to the nearest one-sixteenth of an inch and to the nearest millimeter. Estimate and measure an angle to the nearest degree. Calculate the circumference of a circle using a given formula. Calculate elapsed time across a.m. and p.m. time periods. Calculate the areas of triangles, rectangles, and parallelograms using given formulas. Calculate the surface area and volume of right, rectangular prisms using given formulas.

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Standard V: Students will collect and draw conclusions from data and understand basic concepts of probability.	Standard V: Students will collect and draw conclusions from data and understand basic concepts of probability.	Standard V: Students will collect and draw conclusions from data and understand basic concepts of probability.	Standard V: Students will collect and organize data to make predictions and identify basic concepts of probability.	Standard V: Students will collect and organize data to make predictions and use basic concepts of probability.	Standard V: Students will collect, analyze, and draw conclusions from data and apply basic concepts of probability.	Standard V: Students will collect, analyze, and draw conclusions from data and apply basic concepts of probability.
Objective 1: Collect, organize, and display simple data. a. Collect, organize, and record data using objects and pictures. b. Represent data in a variety of ways (e.g., graphs made from people, <i>pictographs</i> , bar graphs) and interpret the data (e.g., more people like red than blue).	Objective 1: Collect, organize, and display simple data. a. Collect physical objects to use as data. b. Collect, represent, and interpret data using tables, tally marks, <i>pictographs</i> , and bar graphs.	Objective 1: Collect, organize, and display simple data. a. Gather data by vote or survey. b. Sort, classify, and organize data in a variety of ways. c. Use a variety of methods to organize, display, and label information, including keys, using <i>pictographs</i> , tallies, bar graphs, and organized tables. d. Report information from a data display.	Objective 1: Collect, organize, and display data to make predictions. a. Collect, read, represent, and interpret data using tables, graphs, and charts, including keys (e.g., <i>pictographs</i> , bar graphs). b. Make predictions based on a data display.	Objective 1: Collect, organize, and display data to make predictions and answer questions. a. Identify a question that can be answered by collecting data. b. Collect, read, and interpret data from tables, graphs, charts, surveys, and observations. c. Represent data using tables, line plots, line graphs, and bar graphs. d. Identify and distinguish between <i>clusters</i> and <i>outliers</i> of a data set.	Objective 1: Formulate and answer questions using statistical methods to compare data. a. Formulate a question that can be answered by collecting data. b. Collect, compare, and display data using an appropriate format (i.e., <i>line plots</i> , bar graphs, <i>pictographs</i> , circle graphs, line graphs). c. Identify minimum and <i>maximum</i> values for a set of data. d. Identify or calculate the <i>mean</i> , <i>mode</i> , and <i>range</i> . e. Propose and justify inferences based on data.	Objective 1: Design investigations to reach conclusions using statistical methods to make inferences based on data. a. Design investigations to answer questions by collecting and organizing data in a variety of ways (e.g., bar graphs, line graphs, frequency tables, stem and leaf plots). b. Collect, compare, and display data using an appropriate format (i.e., bar graphs, line graphs, <i>line plots</i> , circle graphs, scatter plots). c. Compare two similar sets of data on the same graph and compare two graphs representing the same set of data. d. Recognize that changing the scale influences the appearance of a display of data. e. Develop and evaluate inferences and predictions based on data.

Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade
Objective 2: Determine the likelihood of events. a. Describe events encountered in books read as possible or not possible. b. Describe events as likely or unlikely (e.g., It is likely to snow today. It is unlikely an elephant will be in school).	Objective 2: Determine the likelihood of an event. a. Compare events to decide which are more likely, less likely, and equally likely. b. Relate past events to future events (e.g., The sun set about 6:00 last night, so it will set about the same time tonight).	Objective 2: Determine the likelihood of an event. a. Predict events that will be the same in one day or one week. b. Predict the outcome when there are only two possible outcomes (e.g., tossing a coin).	Objective 2: Identify basic concepts of probability. a. Describe the results of events using the terms “certain,” “equally likely,” and “impossible.” b. Predict outcomes of simple activities (e.g., a bag contains three red marbles and five blue marbles. If one marble is selected, is it more likely to be red or blue?).	Objective 2: Use basic concepts of probability. a. Describe the results of investigations involving random outcomes as simple ratios (e.g., 4 out of 9, 4/9). b. Predict outcomes of simple experiments, including with and without replacement, and test the predictions.	Objective 2: Apply basic concepts of probability. a. Describe the results of investigations involving random outcomes using a variety of notations (e.g., 4 out of 9, 4/9, 4:9). b. Recognize that outcomes of experiments and samples are fractions between 0 and 1. c. Predict the probability of an outcome in a simple experiment.	Objective 2: Apply basic concepts of probability. a. Write the results of a probability experiment as a fraction, ratio, or percent between zero and one. b. Compare experimental results with anticipated results (e.g., experimental: 7 out of 10 tails; whereas, anticipated 5 out of 10 tails). c. Compare individual, small group, and large group results for a probability experiment.

Facilitated Activities

Picture Us

Math Standard V:

Students will collect and draw conclusions from data and understand basic concepts of probability.

Objective 1:

Collect, organize, and display simple data.

Intended Learning Outcomes:

5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Content I-2, 3; Math I-1, 2

Math Standard
V
Objective
1
Connections

Background Information

This graphing activity allows children to develop a sense of self, become better acquainted with others, value differences, cooperate as a group, enhance graphing and number skills, and communicate ideas visually as well as verbally.

Invitation to Learn

Tell the children that we are going to do a math activity that will help us learn more about ourselves and others. Explain that through this activity, they will be able to see about the clothes, pets, and household members of themselves and their classmates. (You may change and/or adapt the categories.)

Instructional Procedures

1. Choose a partner and model for the children how to use the *Picture Us Graph* (p. 2-5) by using your team's personal answers to fill in the graph. Put both your names on the graph. Look for buttons you each have on your clothing and draw them on the graph as close to size, shape, and color as you can. Each of you draw any pets you may have on the appropriate place on the graph. Talk about the number of family members you each have living in your house or apartment, and draw a human figure to represent each one on the graph. Throughout the modeling, talk with your partner about the concepts you are drawing and how you are the same in some ways and different in others.

Materials

- ☐ Copy of *Picture Us* graph for each pair/group/table
- ☐ Pencils, crayons, and/or markers

2. Tell the class they will work in groups of two to four (Kindergarten children work best in groups of two) and must decide how they will take turns drawing their representations. Tell them to discuss how they are the same and how they are different.
3. Divide the class into groups and give each group a *Picture Us* graph and some drawing utensils. When they are finished with their activity, allow them to share with the class. Post the group graphs where all can see and discover how they compare with other groups.

Possible Extensions/Adaptations/Integration

This can also be done as an individual activity. Concepts from almost any topic you may be studying can be made into graphs to help the children become better aware of themselves and acquainted with others. Keep the number of categories small (one to three). If you have children with special needs, adapt the categories or means of representations to their abilities.

Assessment Suggestions

Have the children point and count for you to ascertain one-to-one correspondence knowledge. Listen to the children talk to each other and talk with them to determine oral language skills. Fine motor skills can be assessed by noting the accurate and detailed representation of their drawings. Ask them about the shapes and sizes and colors of the buttons to determine their geometric and spatial abilities. Have children make individual graphs. The graphs will help you determine their graphing abilities.

Family Connections

Have the children help in preparing a graph that they can take home and complete with family members.

Names _____

Picture Us Graph

12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			
	Buttons: Size, shape, color	Pets: What kind	Household Members: Who lives with you

People Patterns

Math Standard II

Objective 2

Connections

Math Standard II:

Students will identify and use patterns to represent mathematical situations.

Objective 2:

Identify and use patterns to describe numbers or objects.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Content II-1

Background Information

This can be a meaningful and engaging activity after children have learned the concept of the AB pattern through use of manipulatives, or to teach the AB pattern using classmates. This activity can also help develop group problem solving.

Invitation to Learn

Tell the children that you are going to do an activity that will use their classmates. They will need to watch very carefully to see how you are arranging the children and think about what is alike and different about them in your arrangement.

Instructional Procedures

Materials

- ☐ Classroom of children

1. Invite various children to come and stand a certain way (arrange children front/back facing, boy/girl, stand/kneel, tall/short, etc.)
2. Ask the children what they notice about their arranged classmates.
3. Let them discover that you have made a pattern. Talk about that particular pattern and ask what would come next in the pattern. Teach and/or discuss the AB pattern.
4. Have the children work either individually or in groups of two to create and/or solve patterns using classmates as the manipulatives.

Possible Extensions/Adaptations/Integration

Make sure that all children are, or can be, included in your model pattern. Be sensitive to children who are self-conscious about certain attributes such as overly tall or short, of ethnic minority, physical disability, etc. Assign groups and/or partners that will allow all children to participate equally.

Assessment Suggestions

As children work with partners or in groups to create or discern patterns, be cognizant of which children appear to understand the concept. Maybe the children could make pictorial representations or symbols for the various patterns.

Family Connections

Send home a note asking adults to work with children to create and/or guess patterns from objects found in the home and surrounding areas.

Writing Rubric: Kindergarten through Second Grade

Name _____

Teacher _____

Date _____

	Stage 1 Role Play Writer	Stage 2 Emergent Writer	Stage 3 Developing Writer	Stage 4 Beginning Writer	Stage 5 Expanding Writer
Spelling	<i>Scribbles and uses writing-like behavior.</i> <i>Uses scribbles, letters, and numerals to mimic words—no phonetic association.</i>	<i>Begins to write initial consonants of words.</i> <i>Begins to match letter sounds heard in words. Each syllable is represented by a letter.</i>	<i>Understands left to right organization of print.</i> <i>Uses invented spelling with initial and final consonants and some vowels.</i>	<i>Writes many sight words correctly.</i> <i>Decodes words for spelling but also uses resources to self-correct.</i>	<i>Edits for content, punctuation, and spelling during and after composing.</i>
Penmanship	<i>Learns to hold a pencil correctly.</i> <i>Traces upper and lowercase letters.</i>	<i>Begins to write on a line.</i> <i>Mixes upper and lowercase letters in writing.</i>	<i>Distinguishes upper and lowercase letters in writing.</i>	<i>Has a sense of sentence but may only be able to deal with one or two elements of writing at one time (e.g., spelling but not punctuation).</i>	<i>May vary control of structure, punctuation and spelling according to the complexity of the writing task.</i>
Print/ Mechanics Concepts	<i>Demonstrates an awareness of environmental print.</i>	<i>Uses letters to make words and stories.</i> <i>Attempts to write name and random letters.</i>	<i>Shows evidence of directional knowledge and one-to-one correspondence of written word to spoken word.</i> <i>Starts to write word patterns.</i>	<i>Writes about topics that are personally significant.</i>	<i>Organizes thoughts and ideas.</i> <i>Uses a wide range of words that clearly and precisely convey meaning.</i>
Content	<i>Draws pictures only.</i> <i>Uses some scribble writing.</i>	<i>Copies a word or letters.</i> <i>Uses a pattern sentence.</i>	<i>Uses temporary spelling.</i> <i>Uses simple complete sentences.</i>	<i>Uses complete sentences.</i> <i>Organizes ideas into paragraphs.</i>	<i>Writes in a variety of formats: poetry, stories, reports, etc.</i>

Writing Stages

Stage 1 Role Play Writer Ages 3-5	
Key Indicators <i>I use pictures to tell stories or ideas.</i> <i>I know that letters are used to make words and stories.</i> <i>I draw pictures and write letter-like symbols about the pictures.</i> <i>I can tell about my writing.</i>	Major Teaching Emphases <i>Demonstrate the connection between oral and written language.</i> <i>Demonstrate that writing communicates a message.</i> <i>Focus on the way print works (print concepts and conventions).</i> <i>Demonstrate that writing is purposeful and has an intended audience.</i> <i>Use correct terminology for letters, sounds, and words and encourage children to experiment with writing.</i>
Stage 2 Emergent Writer Ages 4-6	
Key Indicators <i>I use pictures and words to share stories.</i> <i>I copy names and some words.</i> <i>I know that each sound has a letter or letters.</i> <i>I print with mostly uppercase letters.</i> <i>I use one, two, or three letters to write a word.</i> <i>I use the beginning and ending sounds to make words.</i> <i>I can usually read what I write.</i> <i>I see myself as a writer.</i> <i>I take risks with writing (write new things and spell words on my own).</i>	Major Teaching Emphases <i>Model brief, imaginative, and factual texts, and explain the purpose and intended audience.</i> <i>Help build lists of high-frequency words from the child's reading and writing.</i> <i>Demonstrate one-to-one correspondence of written and spoken words.</i> <i>Discuss how writing can be used to communicate over distance and time.</i> <i>Encourage children to talk about their experiences.</i> <i>Talk about letters, words, and sentences, and help children understand how written texts are composed in sentences.</i> <i>Help children to relate written symbols to the sounds they represent.</i>

Stage 3 Developing Writer

Ages 5-7

Key Indicators	Major Teaching Emphases
<p><i>I write names and favorite words.</i></p> <p><i>I write short sentences.</i></p> <p><i>I can think of ideas to write about.</i></p> <p><i>I use patterns and ideas from books.</i></p> <p><i>I sometimes use spaces between my words.</i></p> <p><i>I write from top to bottom, left to right, and front to back.</i></p> <p><i>I mix my upper and lowercase letters together.</i></p> <p><i>I match letters to sounds.</i></p> <p><i>I mostly use the sound of words when I spell.</i></p> <p><i>I use beginning, middle, and ending sounds to write words.</i></p> <p><i>I can sometimes read my own writing</i></p>	<p><i>Teach form for simple and compound sentences.</i></p> <p><i>Expose students to a variety of patterns in texts.</i></p> <p><i>Teach proper use of capitalization.</i></p> <p><i>Teach punctuation for sentence endings.</i></p> <p><i>Teach beginning, middle, and ending for writing.</i></p> <p><i>Continue to teach vowel combinations and patterns for spelling rules.</i></p> <p><i>Provide a variety of resources for spelling check (e.g., word wall, topic dictionaries, word banks, etc.).</i></p>

Stage 4 Beginning Writer

Ages 6-8

Key Indicators	Major Teaching Emphases
<p><i>I write short sentences.</i></p> <p><i>I write about what I see and what I do with some descriptive words.</i></p> <p><i>I use ideas and language from books.</i></p> <p><i>I add more to my writing with help.</i></p> <p><i>I edit for ending marks with help.</i></p> <p><i>I make my letters neatly.</i></p> <p><i>I write pieces that I can read and others can read.</i></p> <p><i>I use temporary spelling when I write by myself.</i></p> <p><i>I use capitals and periods correctly some of the time.</i></p> <p><i>I share my writing with others.</i></p>	<p><i>Develop an awareness in students that writing is purposeful.</i></p> <p><i>Talk about the differences between oral and written language.</i></p> <p><i>Read, write, and discuss a range of different forms of writing for different purposes and audiences.</i></p> <p><i>Teach planning and revision strategies, and show how sentences are linked to form a cohesive paragraph.</i></p> <p><i>Show students how paragraphs are linked to form a whole text.</i></p> <p><i>Teach strategies for learning to spell new words, and continue to help children develop word banks using topic or theme words. Discuss the selection of words to enhance meaning.</i></p> <p><i>Introduce a proofreading guide and encourage children to use it.</i></p>

Stage 5 Expanding Writer

Ages 7-9

Key Indicators

I write with a main idea.

I write with complete sentences.

I sometimes write pieces with a clear beginning, middle, and end.

I put my ideas in the right order with help.

I sometimes add details.

I sometimes find and use interesting language.

I listen to other people's ideas about my writing and give other people suggestions.

I sometimes use other people's suggestions about my writing to make it better.

I revise by adding description and detail with help.

I edit for punctuation, spelling, and correct English in my final drafts with help.

I spell lots of words correctly.

I use capital letters and periods correctly.

I write so that people can read my writing.

I write differently depending on who will read my writing.

I talk about what I do well as a writer and set goals with help.

Major Teaching Emphases

Teach children to plan and write both narrative and informational texts.

Help children adapt their writing to suit the intended purpose and explore alternative ways of expressing ideas.

Teach children appropriate use of organizational markers such as topic sentences, paragraphs, and headings.

Encourage children to take responsibility for their own learning.

Teach revising, editing, and proofreading skills.

Teach children to use punctuation, grammar, and spelling in context.

Teach appropriate use of commas and apostrophes.

Stage 6 Bridging Writer

Ages 8-10

Key Indicators

I write about my feelings and opinions.

I write pieces with a clear beginning, middle, and end.

I sometimes use paragraphs to organize my ideas.

I use a thesaurus or lists of words to make my writing better with help.

I make my writing more interesting by adding description and detail.

I use strong verbs (action words) and interesting language with help.

I experiment with people talking in my stories.

I ask for help and suggestions about my writing.

I revise my writing to make sense with help.

I am getting better at editing for spelling, punctuation, and correct English.

I spell more words correctly by using spelling rules, word parts, and word shapes.

I use commas and apostrophes correctly.

I try different types of writing (like reports, letters, stories, and poems) with help.

I can read my writing and think about how to make it better with help.

Major Teaching Emphases

Teach quotation marks.

Analyze paragraphs in texts.

Provide a thesaurus, simple dictionaries, and resource books.

Help students develop lists of interesting action verbs and descriptive words.

Teach students editing, revising, and proofreading skills.

Provide students with opportunities to help edit the work of peers.

Assign a variety of writing formats. Read, discuss, and analyze a variety of writing formats.

Patterns in Our Environment

Math Standard II

Objective 2

Connections

Math Standard II:

Students will identify and use patterns to represent mathematical situations.

Objective 2:

Identify and use patterns to describe numbers or objects.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
3. Demonstrate responsible emotional and cognitive behaviors.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts I-1, 2

Background Information

Through this activity, children will become aware of and look for patterns in their environment.

Invitation to Learn

Hold *Lots and Lots of Zebra Stripes* (or another book or pictures of similar content) and ask, “What do you think this book is about?” Discuss various answers. If time allows, do a picture walk-through of the book without saying anything and have the children predict what the book is about.

Instructional Procedures

Materials

- ☐ *Lots and Lots of Zebra Stripes: Patterns in Nature* (Or another information book or pictures of similar content)
- ☐ Natural and/or manmade realia from the environment that have definite patterns
- ☐ Paper and writing utensils
- ☐ Clipboards (enough for one per two children)

1. Read and discuss *Lots and Lots of Zebra Stripes* (or another book or pictures of similar content).
2. Show the children the realia you have and ask them to determine the patterns.
3. Tell them that you are all going to go for a pattern walk around the school (in and out depending on the weather). They will work in pairs and will look for patterns in the environment. (You may wish to discuss what the word environment is if you have not already taught it.)
4. Divide the class into pairs and decide which child will hold the clipboard and which one the writing utensil(s).
5. As you begin your walk, stop and discuss patterns that are manmade and patterns that are natural.

6. Each pair is to find two natural or manmade patterns and draw pictures of the patterns.
7. Children each take a turn drawing a pattern.
8. After you return to class, the children will share their pictures. You may wish to label them, or have the children label what they are.

Possible Extensions/Adaptations/Integration

Children may work better individually. Have partners for those with special needs. This could become a journal activity. Or, you could make the pictures into a class book.

Assessment Suggestions

Observe and make anecdotal notes of oral language development. Also, you may wish to put finished products into children's portfolios. Be sure to have children date their drawings.

Additional Resources

Lots and Lots of Zebra Stripes, by Stephen R. Swinburne;
ISBN 1563977079

Family Connections

Have the children share their drawings with their parents and ask them to find some patterns around their home environments, draw them, and bring them to class to share.

How Many Arms Tall Are You?

Math Standard IV

Objective 2

Connections

Standard IV:

Students will understand and use simple measurement tools and techniques.

Objective 2:

Use appropriate techniques and tools to determine measurements.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
4. Develop physical skills and personal hygiene.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Background Information

This problem-solving activity will help the children understand about units of measure and one way their body parts correspond with one another. It will also give them an opportunity to work with a partner to decide how to measure one's arm and then use that measurement to measure one's length using nonstandard units.

Invitation to Learn

Teacher asks: "How many of your arm lengths, measuring from your shoulders to the tips of your middle fingers, do you think it would take to be as long as your body?" Let children discuss each other's answers. Then ask, "How many of your arm lengths do you think it would take to measure a friend or even your teacher?" Let children discuss this and problem solve why it might be different. Then say: "I am going to give you some string (yarn) and a pair of scissors to find the answer to the questions. You may work with a partner to do so."

Instructional Procedures

Materials

- ☐ A small ball of string or yarn for each pair of children
- ☐ Scissors
- ☐ Paper and pencil to record results

1. Divide the children into pairs and give each pair some string (yarn) and a pair of scissors.
2. Have them work together to find out how many of their own arms it will take to make their own body length.
3. Have them see if this is true when they use the arm length of their partner to measure their body length. Have them record their answers on paper.

Possible Extensions/Adaptations/Integration

Adapt this activity to meet the needs of all children in the classroom. A possible extension may be to measure plastic animals using their leg/wing lengths. Tell the children how shopkeepers used to measure cloth and ask them why this would seem unfair to some people. Move this learning into the need for standard units of measurement.

Assessment Suggestions

Observe children and make anecdotal notes as to their ability to problem solve, to work cooperatively together, to use their cognitive and motor skills to measure and cut the string, to measure one another and record their findings, to communicate during problem solving, and to explain their findings.

Family Connections

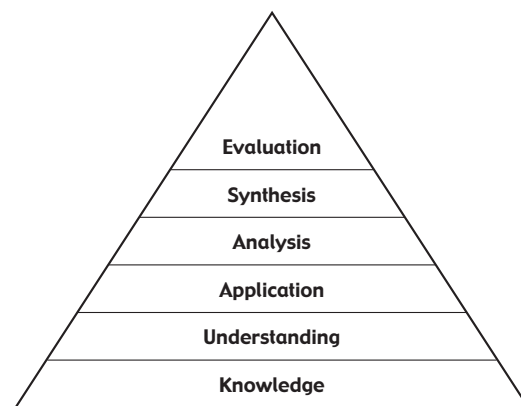
Send some string or yarn home with the children and have them ask their family members to predict how many arms tall they are, and then show them how they can find out. Have them compare their arm and body lengths with each other.

Bloom's Taxonomy

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. Bloom found that over 95 percent of the test questions students encounter require them to think only at the lowest possible level...the recall of information.

Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation. Verb examples that represent intellectual activity on each level are listed here.

1. *Knowledge*: arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state.
2. *Comprehension*: classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate.
3. *Application*: apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
4. *Analysis*: analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
5. *Synthesis*: arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.
6. *Evaluation*: appraise, argue, assess, attach, choose, compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.



Bloom's Taxonomy: Sample Questions

From Bloom, et al., 1956

As teachers we tend to ask questions in the "knowledge" category 80% to 90% of the time. These questions are not bad, but using them all the time is. Try to utilize higher order level of questions. These questions require much more "brain power" and a more extensive and elaborate answer. Below are the six question categories as defined by Bloom.

Knowledge

- remembering;
- memorizing;
- recognizing;
- recalling identification and
- recall of information
- Who, what, when, where, how ...?
- Describe

Comprehension

- interpreting;
- translating from one medium to another;
- describing in one's own words;
- organization and selection of facts and ideas
- Retell...

Application

- problem solving;
- applying information to produce some result;
- use of facts, rules and principles
- How is...an example of...?
- How is...related to...?
- Why is...significant?

Analysis

- subdividing something to show how it is put together;
- finding the underlying structure of a communication;
- identifying motives;
- separation of a whole into component parts

- What are the parts or features of...?
- Classify...according to...
- Outline/diagram...
- How does...compare/contrast with...?
- What evidence can you list for...?

Synthesis

- creating a unique, original product that may be in verbal form or may be a physical object;
- combination of ideas to form a new whole
- What would you predict/infer from...?
- What ideas can you add to...?
- How would you create/design a new...?
- What might happen if you combined...?
- What solutions would you suggest for...?

Evaluation

- making value decisions about issues;
- resolving controversies or differences of opinion;
- development of opinions, judgements or decisions
- Do you agree...?
- What do you think about...?
- What is the most important...?
- Place the following in order of priority...
- How would you decide about...?
- What criteria would you use to assess...?

For further Web-based information on Bloom's taxonomy:

<http://www.eecs.usma.edu/cs383/bloom/default.htm>

<http://www.valdosta.edu/~whuitt/psy702/cogsys/bloom.html>

<http://www.eecs.usma.edu/usma/academic/eecs/instruct/howard/slides/ho/sigcse2/index.htm>

<http://www.uct.as.za/projects/cbe/mcman/mcqappc.html>

The Integrated Curriculum in Elementary Classrooms: A Research Base

Curriculum developed through the integrated approach reflects the real world and engages the learner's body, mind, feelings, senses, and intuition in learning experiences. Grounded in developmental brain research and information processing theories, the integrated approach develops skills needed to function in an information-rich world (Shoemaker, 1989).

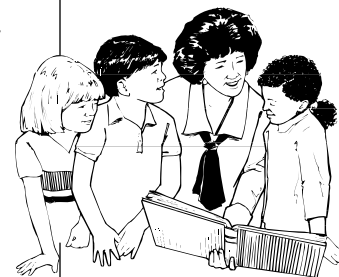
In sum, research on the integrated approach to curriculum development suggests positive effects on student achievement, ability to make connections across disciplines, and attitudes toward learning. Following is an overview of some research findings.

Achievement Gains

- Students demonstrated increased understanding of science concepts (Romance & Vitale, 2001).
- Achievement gains were observed in the areas of conceptual learning and text comprehension (Guthrie et al., 1999).
- Students showed gains in their ability to use higher-order thinking strategies including: comprehending informational texts, searching multiple texts, representing knowledge, transferring concepts, and interpreting narrative (Guthrie et al., 1996).
- Students showed gains in ability to write about realistic situations embedded in the integrated approach to curriculum development (Hillary, 1996).

Connections

- Students made increased connections across disciplines (Boidy & Moran, 1994; Roth et al., 1992).
- Students demonstrated the ability to transfer learning across subjects and to apply learning to real life (Boidy & Moran, 1994).



Attitudes

- The classroom climate was more positive and students and teachers demonstrated increased enjoyment of learning (Fuller, 2001).
- Students demonstrated more positive attitudes and self-confidence toward both science and reading (Romance & Vitale, 2001).
- Increase in higher-order thinking strategies correlated with increase in intrinsic motivation for literacy experiences (Guthrie et al., 1996).

Several articles describe integrated curriculum projects and some references (research and non-research) are listed below. The last two articles listed describe school-wide or district-wide reform projects where the integrated curriculum was implemented.

Cooper, J., & Dever, M. T. (2001). Socio-dramatic play as a vehicle for curriculum integration in first grade. *Young Children* 56(3), 58-63.

Dever, M. T., Barta, J. J., & Falconer, R. (1999). Project Boxes: A curriculum development innovation for achieving developmentally appropriate practice in the primary grades. *The NALS Journal*, 23(1), 16-20.

Dever, M. T., & Hobbs, D. E. (1998). The learning spiral: Taking the lead from how children learn. *Childhood Education*, 75(1), 7-11.

Hoewisch, A. (2001). Creating well-rounded curricula with *Flat Stanley*: A school-university project. *The Reading Teacher*, 55(2), 154-168.

Grisham, D. L. (1995). Integrating the curriculum: The case of an award-winning elementary school. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA, April 17-22.

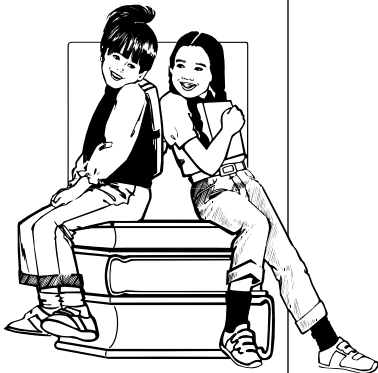
Santa, C. M. (1995). Improving the literacy program: A journey toward integrated curriculum. *Literacy improvement series for elementary educators*. Northwest Regional educational Lab., Portland, OR.

References

- Boidy, T., & Moran, M. (1994). Improving students' transfer of learning among subject areas through the use of an integrated curriculum and alternative assessment. Dissertation, St. Xavier University.
- Fuller, J. L. (2001). An integrated hands-on inquiry based cooperative learning approach: The impact of the PALMS approach on student growth. Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, WA. April 10-14.
- Guthrie, J. T., Anderson, E., Alao, S., & Rinehart, J. (1999). Influences of concept-oriented reading instruction on strategy use and conceptual learning from text. *Elementary School Journal*, 99(4), 344-366.
- Guthrie, J. T., Meter, P.V., McCann, A .D., Wigfield, A., Bennett, L., Poundstone, C. C., Rice, M. E., Faibisch, F. M., Hunt, B., Mitchell, A. M. (1996). Growth of literacy engagement: Changes in motivation and strategies during concept-oriented reading instruction. Reading Research Report No. 3. *The National Reading Research Center*, University of Georgia and University of Maryland.
- Hillary, K. (1996). Improving third and fourth grade student writing through the use of integrated curriculum. Dissertation, Nova Southeastern University.
- Romance, N. R. & Vitale, M. R. (2001). Research Report: Implementing an in-depth expanded science model in elementary schools: Multi-year findings, research issues, and policy implications. *International Journal of Science Education*, 23(4), 373-404.
- Roth, K. J., Peasley, K., Hazelwood, C. (1992). Integration from the student perspective: Constructing meaning in science. The Center for the Learning and Teaching of elementary Subjects. Michigan State University. ED 354 097.
- Shoemaker, B. J. E. (1989). Integrative Education: A curriculum for the twenty-first century. *OSSC Bulletin*, 33(2). ED 311 602.

Resources for Mini-Grants for Teachers

1. Contact your local Education Foundation.
2. NEA Foundation for Improvement of Education
<http://www.nfie.org/grants.htm>
3. Teaching Tolerance
Supports materials and activities aimed at anti-bias teaching
<http://www.tolerance.org/teach/expand/gra/index.jsp>
4. Utah Credit Union
<http://www.100percentforkids.com/>



Helpful Hints for Supporting All Learners

The following information is provided as a resource for teachers as they work with the diverse learners they encounter in their classrooms. Most ideas presented are for use in any content area and at any grade level, including the K-2 Content, Math, and Science Core curricula that are the focus of the 2004 Elementary CORE Academy.

Common barriers to learning and ways to overcome those barriers are presented, as well as the basic fundamentals of differentiating instruction. Also included is a checklist for highlighting appropriate student-specific adaptations and modifications designed to help struggling students, including the gifted.

There is also a chart that describes weaknesses in cognitive processes that could explain why a student struggles with particular reading or other academic skills. This information should be provided through formalized assessment.

For more information, please contact curriculum or special education specialists at the Utah State Office of Education or the specialists at the Utah Personnel Development Center.

- **Barriers Students Face**
- **Engaging All Learners**
- **Adaptation/Modification Checklist**
- **Why Students Struggle in the Classroom**

Barriers Students Face

1. Barriers exist that encumber the path to academic achievement for students.
2. The way to get around the barriers is by employing effective instructional practices that utilize differentiation strategies.
3. Two elements of a learning setting can be points of differentiation.
 - a. Person—learner
 These characteristics are out of the control of the teacher, but can be positively influenced by differentiation.
 - *Learning Preference* (style or strength)
 - *Learning Ability* (enhanced or impaired)
 - b. Process—instruction
 These practices during the instructional cycle are within the control of the teacher and can positively influence student achievement.
 - *Input* (instructional delivery)
 - *Output* (demonstration of learning)

Common Barriers

PERSON—Student	What to do about it	PROCESS—Instruction	What to do about it
Limited language skills	Pre-teach critical or potentially troublesome vocabulary. Provide visual or kinesthetic cues.	Unclear directions and expectations	Reduce instructional clutter. Provide simple clear directions. Teach and maintain consistent routines.
Trouble maintaining attention	Provide short, intense learning sessions, vary tasks, break down complex tasks.	Over-reliance on worksheets/bookwork	Provide explicit instruction, examples, and relevant practice. Provide adequate guided practice.
Inadequate mastery of prerequisite skills	Provide experience or background knowledge. Do not assume anything.	Inadequate Guided Practice during lesson sequence	Continue with guided practice until 90% of your students are performing skill at 80%-90% or better.
Inefficient processing skills	Allow think time, provide physical cue to respond, rehearse responses, use simple vocabulary, check for understanding, give one direction at a time, wait time.	Use of abstract examples	Use clear, easily recognizable examples during initial phases of instruction. Use visual, auditory, and kinesthetic representations. Relate to real-life.
Impaired academic learning ability	Make tasks less complex, reduce amount of content to be learned, relate to real-life experience of student.	Only one option for students to demonstrate learning	Provide more than one way for students to show what they know. Same criteria, demonstration is different.
Advanced academic learning ability	Make tasks more complex. Increase amount of content to be learned.	Inappropriate use of homework	Homework is review, not new learning. Do not use as busy work. Provide feedback.

Engaging All Learners

Hints for Differentiating Instruction

1. INPUT—instruction

Visual Learners—use pictures, videos, diagrams, maps, guided notes, flow charts, demonstration, flash cards, study cards

Auditory Learners—use lecture, telling, discussion, audio tracks, read aloud, debate, listen to news reports

Kinesthetic Learners—use underlining, manipulatives, tracing, highlighting, dramatize, pantomime, mimic actions, field trips, information walks, actions, sign language.

2. OUTPUT—demonstration of learning

Visual Learners—allow collages, drawings, diagrams, symbols, posters, cartoons, photos, maps, flow-charts, video

Auditory Learners—allow storytelling, debates, speech, song/rap, interview, newspaper article, discussion, essays, journaling

Kinesthetic Learners—allow painting, dancing, molding, model building, role play, pantomimes, games, creations, raps

Hints for Extending Instruction: for Academically Advanced Students

1. INPUT—instruction

More Content—more elements to master, more independent study, supplementary materials, use less obvious examples, give more abstract examples and ideas, less practice on material given

More Complex Task—more responses, more complex directions, more examples, more opportunities to generalize, less teacher direction

2. OUTPUT—demonstration of learning

More Content—more concepts to demonstrate, require broad generalization, group work, complex assignments, generation instead of recognition, proficiency on more skills

More Complex Task—require more responses, increase number of examples demonstrated, student must reorganize information, student develops more strategies for remembering—shares with others, teaches others

Hints for Accommodating Instruction: for Academically Struggling Students (Spec. Ed, 504, ELL, other)

Changes HOW student accesses or demonstrates learning.

NO change in HOW MUCH learning is expected.

1. INPUT—instruction

Math—provide photocopy of assignment to write on, break down complex tasks, allow calculator use, use fact charts, give prompts for remembering steps, “think” out loud when instructing, increase amount of guided practice, teach strategies, identify and teach critical elements, peer partners, relate to real-life, guided notes

Science—provide text reader, graphic organizers, teach prerequisite vocabulary, read written directions aloud, provide guided notes, explanations, clear examples and non examples, identify and teach critical elements, cloze procedure note taking, experiential activities, chunk instructional periods, multi-sensory approach, break-down complex tasks, relate to real-life, teach memory strategies

2. OUTPUT—demonstration of learning

Math—allow extra time, partial assignments, use calculator, give prompts for formula steps, use a “do/redo/turn-in” option, do not mix examples and non-examples without clear warning, photocopy of assignment to write answers on, a copy of book for home, mix current lesson with basic skill review problems, check for understanding, homework partner, accept work done in class

Science—allow verbal responses, posters, models, reduce choices on matching, give more time, short answer instead of essay, type instead of write, proofreader, do not penalize for spelling errors, demonstrations, provide a task analysis or completion checklist, review needed materials or steps, reduce writing load on assignments, allow a “do/re-do” option

Hints for Modifying Instruction for students with disabilities (Spec. Ed-must have an IEP)

Changes in WHAT/HOW MUCH a student is expected to learn.

1. INPUT—instruction

Less Content—instruct on one or two basic skills/ideas, parallel curriculum on same topic, use simple real-life examples, simplify guided notes, provide concept summaries with easy to understand words, provide more practice with less material, use more examples with less material, reduce content clutter in lessons

Less Complex Task—use words with literal meanings, break tasks down then teach each part to mastery, provide more prompts during guided practice, highlight basic information, keep tasks to one to three steps, provide guidance for remembering/associating information, provide easy diagrams or templates

2. OUTPUT—demonstration of learning

Less Content—fewer elements to master, one or two concepts to demonstrate, reduce assignment length, relate assignment to functional/real-life skills, assign easiest job during group work, have students recognize instead of generate information, require proficiency on only one or two skills

Less Complex Task—break down task, require only one or two responses, limit choices on matching, provide high level of prompting, outline necessary steps, allow strategies for remembering, give fewer practice exercises, reduce number of test items, give a modified test, highlight basic information, allow student to point to or say instead of write out, give extra time

Adaptation/Modification Checklist

Student: _____	Teacher: _____
Testing Adaptations: <ul style="list-style-type: none"> <input type="checkbox"/> Change essay questions to multiple choice. <input type="checkbox"/> Reduce multiple choice to _____ choices. <input type="checkbox"/> Avoid True or False questions. <input type="checkbox"/> Avoid essay questions. <input type="checkbox"/> Provide a word bank. <input type="checkbox"/> Accept short answers. <input type="checkbox"/> Give open book/notes tests. <input type="checkbox"/> Allow student to record or dictate answers. <input type="checkbox"/> Reduce spelling list for spelling tests. <input type="checkbox"/> Extend time frame or shorten length of test. <input type="checkbox"/> Avoid Scantron answer sheets. <input type="checkbox"/> Read test to student. <input type="checkbox"/> Provide study guide prior to test. <input type="checkbox"/> Type tests and/or use large print. <input type="checkbox"/> Test smaller units of material. <input type="checkbox"/> Highlight key directions. <input type="checkbox"/> Give test in an alternate site. <input type="checkbox"/> Allow student to use calculator. <input type="checkbox"/> Allow a test retake. <input type="checkbox"/> Other: _____. 	Presentation of Subject Matter: <ul style="list-style-type: none"> <input type="checkbox"/> Teach to the student's learning style: _____ <input type="checkbox"/> Read text aloud. <input type="checkbox"/> Provide small group instruction. <input type="checkbox"/> Provide an accurate copy of notes or key points written on the board or overhead. <input type="checkbox"/> Model lesson being taught. <input type="checkbox"/> Utilize manipulatives. <input type="checkbox"/> Highlight critical information. <input type="checkbox"/> Pre-teach the vocabulary. <input type="checkbox"/> Do not call on the student to read aloud in class. <input type="checkbox"/> Check student's understanding during the lesson. <input type="checkbox"/> Provide study guides. <input type="checkbox"/> Assign a study buddy. <input type="checkbox"/> Allow time for student to process directions/information. <input type="checkbox"/> Other: _____.
Materials: <ul style="list-style-type: none"> <input type="checkbox"/> Taped textbooks or other class material. <input type="checkbox"/> Highlighted textbooks. <input type="checkbox"/> Special equipment: calculator, computer, word processor/spell checker, other _____ <input type="checkbox"/> Large print books. <input type="checkbox"/> Special paper (wide-lined, graph, etc.) <input type="checkbox"/> Two sets of books; second one for home. <input type="checkbox"/> Assignment sheet or planner. <input type="checkbox"/> Behavior monitoring sheet. <input type="checkbox"/> Other: _____ 	Assignment Accommodations: <ul style="list-style-type: none"> <input type="checkbox"/> Give directions in writing and verbally. <input type="checkbox"/> Avoid penalizing for spelling errors, except on spelling tests/assignments. <input type="checkbox"/> Show an example of what the completed assignment should look like. <input type="checkbox"/> Reduce assignment. <input type="checkbox"/> Read written work to student. <input type="checkbox"/> Provide alternate assignment/strategy when demands of assignment conflict with student capabilities. <input type="checkbox"/> Allow student to word process assignment. <input type="checkbox"/> Avoid penalizing for poor penmanship. <input type="checkbox"/> Allow student to use manuscript. <input type="checkbox"/> Communicate homework expectations with parents. <input type="checkbox"/> Check for student's understanding of the task. <input type="checkbox"/> Chunk tasks. <input type="checkbox"/> Allow a scribe or note taker. <input type="checkbox"/> Other: _____.
Grading: <ul style="list-style-type: none"> <input type="checkbox"/> Use pass/fail grading system. <input type="checkbox"/> Use a modified scale. <input type="checkbox"/> Give credit for partial completion. <input type="checkbox"/> Consider effort in assigning grade. <input type="checkbox"/> Give credit for participation. <input type="checkbox"/> Give copies of midterms to parents. <input type="checkbox"/> Notify special education teacher when grades drop below a C-. <input type="checkbox"/> Other: _____. 	Miscellaneous: <ul style="list-style-type: none"> <input type="checkbox"/> Avoid timed activities. <input type="checkbox"/> Implement preferential seating. <input type="checkbox"/> Provide cues for staying on task. <input type="checkbox"/> Provide a quiet place to work. <input type="checkbox"/> Allow short breaks during assignments. <input type="checkbox"/> Seat student next to a good role model. <input type="checkbox"/> Provide daily check-in time with teacher. <input type="checkbox"/> Consider Assistive Technology and Services. <input type="checkbox"/> Other: _____.

Why Do Some Students Struggle in Your Classroom?	
In explaining deficits in learning, there are weaknesses in cognitive processes that should be ruled in or ruled out through formalized assessment.	
Cognitive Processes:	What it looks like in the classroom:
Auditory Processing —Perception, analysis, and synthesis of auditory stimuli.	<input type="checkbox"/> Confuses words and phrases that sound alike (e.g., “blue” with “blow” or “ball” with “bell”). <input type="checkbox"/> Finds it hard to pick out an auditory figure from its background and it may seem that they are not listening or paying attention. <input type="checkbox"/> Processes sound slowly and cannot keep up with the flow of conversation, inside or outside the classroom. <input type="checkbox"/> Difficulty with phonics (decoding), spelling, and reading fluency.
Visual Perception —Recognizing the position and shape of what is seen (The “Mind’s Eye”).	<input type="checkbox"/> Reverses/rotates letters, jumps over words, reads the same line twice, or skip lines. <input type="checkbox"/> Difficulty distinguishing a significant form from its background.
Short-Term Memory —Ability to hold information in immediate awareness and use it within a few seconds.	<input type="checkbox"/> Difficulty learning from lecture, listening and following directions. <input type="checkbox"/> Cannot remember information long enough to process for comprehension and retrieval.
Long-Term Retrieval —Ability to store information and retrieve it later over extended time periods.	<input type="checkbox"/> “I know it but I can’t think of it” phenomena. <input type="checkbox"/> Demonstrate mastery of information one day and unable to recall it on test day (poor test performance/inconsistent grades).
Comprehension-Knowledge —Breadth and depth of acquired cultural knowledge and experience.	<input type="checkbox"/> Low vocabulary and reading comprehension. <input type="checkbox"/> Difficulty in listening comprehension and in answering factual questions.
Processing Speed —Fluent performance of cognitive tasks automatically when under pressure to maintain attention.	<input type="checkbox"/> Can’t process symbols fast enough to enhance decoding or comprehension. <input type="checkbox"/> Does poorly on timed tasks.
Visual-Spatial Thinking —Perception, analysis, synthesis, and manipulation of visual stimuli.	<input type="checkbox"/> Weakness: rapid sound/symbol associations, copying tasks, and recognizing whole words.
Fluid Reasoning —Involves inductive and deductive reasoning, identifying relations, and drawing inferences.	<input type="checkbox"/> Difficulty in transfer and generalization. <input type="checkbox"/> Poor flexibility in thinking. <input type="checkbox"/> Low abstract problem solving.
Attention/Concentration —Ability to filter and prioritize external/internal stimuli to attend.	<input type="checkbox"/> Poor task/work completion. <input type="checkbox"/> Assignments are partially completed, often items are skipped. <input type="checkbox"/> Seems disorganized during instruction and practice.
Working Memory —Ability to temporarily store and perform a cognitive operation on a set of information.	<input type="checkbox"/> Problems with sequencing. <input type="checkbox"/> Not flexible in use of strategies to solve problem/task. <input type="checkbox"/> Attempts task but only understands a part of it. <input type="checkbox"/> Seems unmotivated.
Cognitive Academic Language Proficiency —Proficiency in academic situations and those aspects of language that emerge from formal schooling.	<input type="checkbox"/> Understands more than can express. <input type="checkbox"/> Difficulty in receptive and expressive language. <input type="checkbox"/> Language “different” rather than language “disability”. <input type="checkbox"/> Poor vocabulary knowledge.

Mather, Nancy, Wendling, Barbara J., & Woodcock, Richard W. Essentials of WJ III Tests of Achievement Assessment. John Wiley & Sons, Inc. New York, 2001, pp. 111-112

Put Reading First: The Research Building Blocks of Reading Instruction, Second Edition, June 2003 [On-Line, PDF] <http://www.nifl.gov/partnershipforreading/publications/k-3.html>, page 2

Reading Fluency, Mather, N., & Goldstein, S. (2001). [On-Line]

http://www.ldonline.org/ld_indepth/reading/reading_fluency.html

Silver, Larry B., M.D. A Look at Learning Disabilities in Children and Youth, [On-Line] http://www.ldonline.org/ld_indepth/reading/reading-2.html

***Content Standard I
and
Math Standard V
Activities***

We Are All Different in Many Ways!

Content Standard I:

Students will develop a sense of self.

Objective 3:

Develop and use skills to communicate ideas, information, and feelings.

Intended Learning Outcome:

3. Demonstrate responsible emotional and cognitive behaviors.

Content Connections:

Language Arts I-1

Content Standard I

Objective 3

Connections

Background Information

This activity focuses on being an individual and reminds students that it is okay to be different. Differences such as skin color, eye color, hair color, emotions, families, etc., will be discussed.

Invitation to Learn

Place empty crayon boxes on the tables with only the black crayons left for students to draw with.

Instructional Procedures

1. Have students draw a colorful picture with only the black crayon.
2. Talk about how our world would be if we only had a black crayon.
3. How would our world be if we all looked alike?
4. Invite students to the reading area and read *The Black Crayon* flannel board story (p. 3-5).
5. Talk about how even the black crayon is important and so are we in different ways.
6. Read *The Crayon Box That Talked*.
7. Talk about how each crayon is important even though they look different. Apply the concept to the class.
8. Invite students back to their seats and have them draw another picture with all the crayons.

Materials

- ☐ *The Black Crayon* flannel board story
- ☐ *The Crayon Box That Talked*
- ☐ Crayons (separate blacks from the rest of the colors)
- ☐ Paper (two sheets per student)

Possible Extensions/Adaptations/Integration

Graph favorite colors.

Match colors to emotions and various faces.

Probability—Put crayons in a bag, pull one out at a time, graph.

Assessment Suggestions

Ask questions about how we can learn from these stories.

Additional Resources

Books

It's Okay to Be Different, by Todd Parr; ISBN 0316666033

The Feelings Book, by Todd Parr; ISBN 0316691313

My Many Colored Days, by Dr. Seuss; ISBN 067989344X

Today I Feel Silly and Other Moods That Make My Days, by Jamie Lee Curtis; ISBN 0694013439

Harold and the Purple Crayon, by Crockett Johnson;
ISBN 0064430227

Web site

<http://www.atozteacherstuff.com>

Family Connections

- Invite the family to sit down and draw pictures together using a variety of colors.
- Talk about the different emotions that we have.

The Black Crayon

Flannel Board Story

“Oh no, they’re gone again!” cried the black crayon as he looked around the box. The crayon box was empty except for the black crayon. This happened a lot, and he didn’t like it, not one bit. In fact, it made him a little sad.

He rolled out of the box and saw a girl holding the red crayon, the yellow crayon, and the green crayon. She was making the trunk of a tree with the brown crayon.

“Why don’t you ever use me?” he asked her.

She looked at him and said, “Because I don’t know what to draw with you.”

The black crayon thought for a minute then said, “Oh, but there are so many things to draw with me. You could draw a zebra, a tiger, or even a spider.”

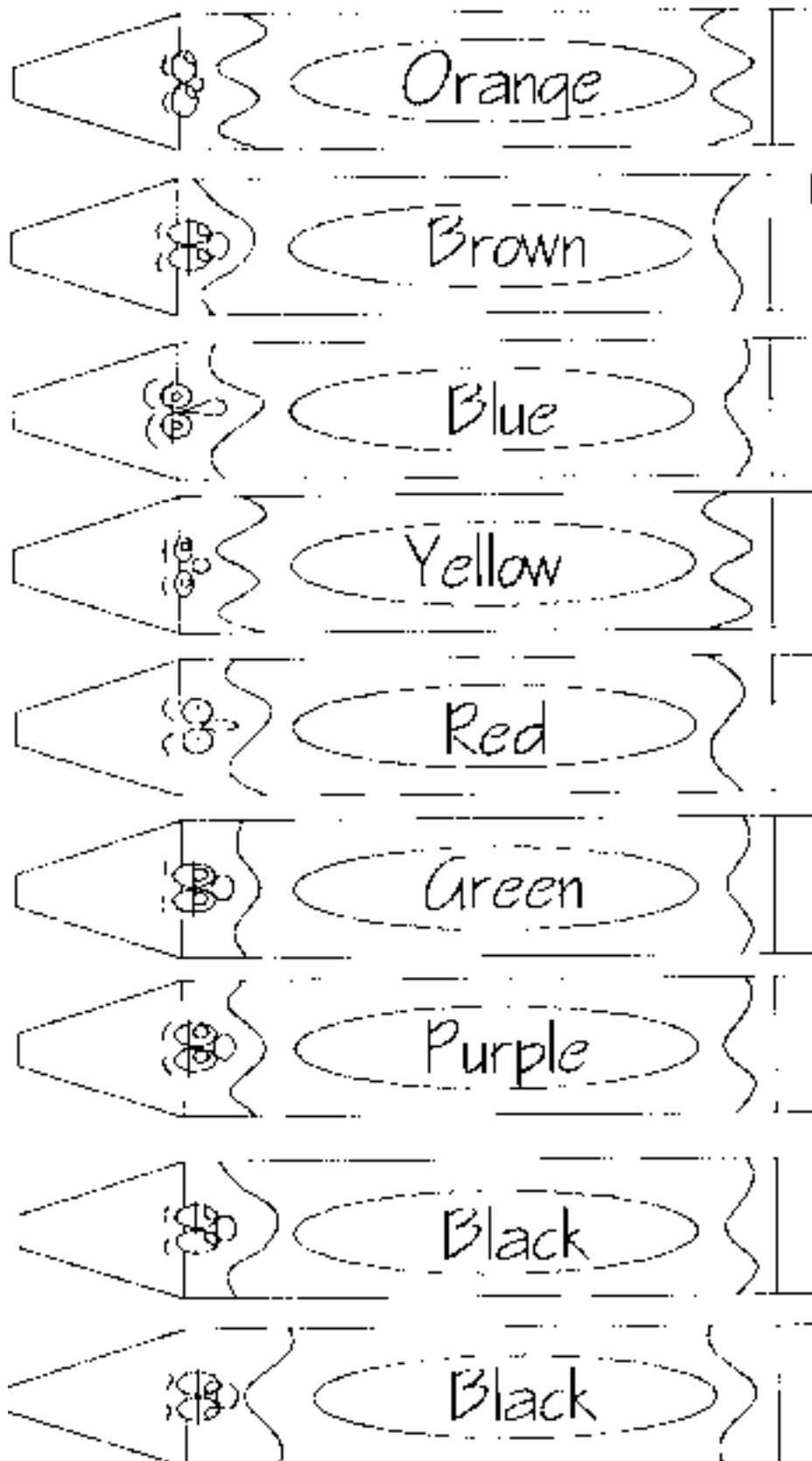
“Why, that’s a great idea!” replied the girl. “I could draw a tiger hiding behind this tree getting ready to jump out at a zebra. You are right; I would not be able to draw a tiger or a zebra without you! Oh, I am so excited; this will be a wonderful picture.”

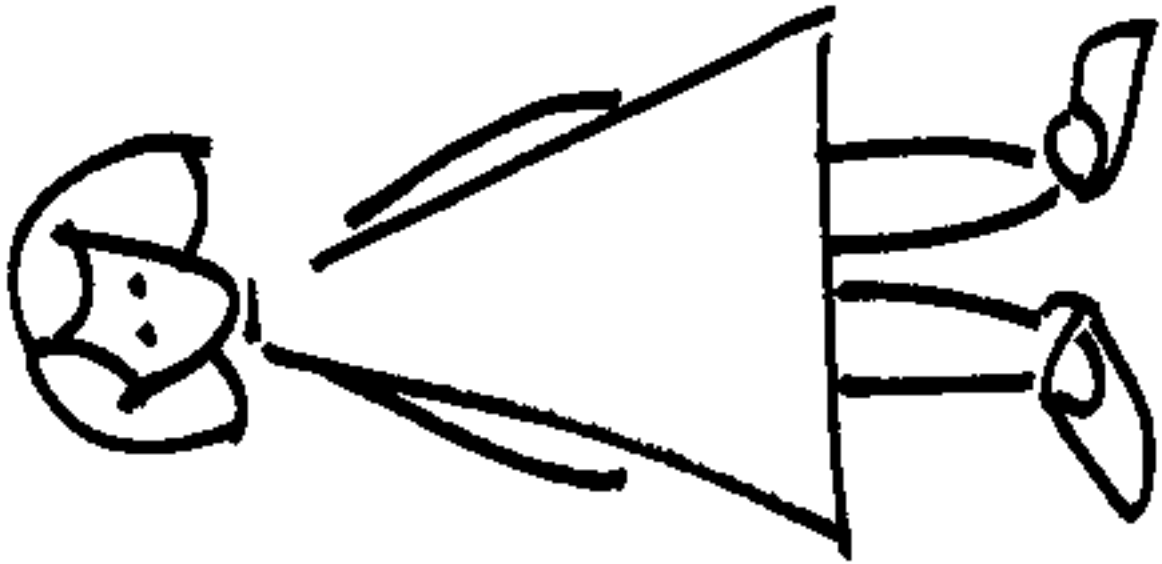
The girl finished her tree and then drew a tiger with orange and black stripes hiding behind it. Next, she made a black and white zebra eating grass nearby. When the girl was finished she hung her beautiful picture up for everyone to see. She was so excited about her picture that she just had to tell the black crayon thank you for his wonderful idea.

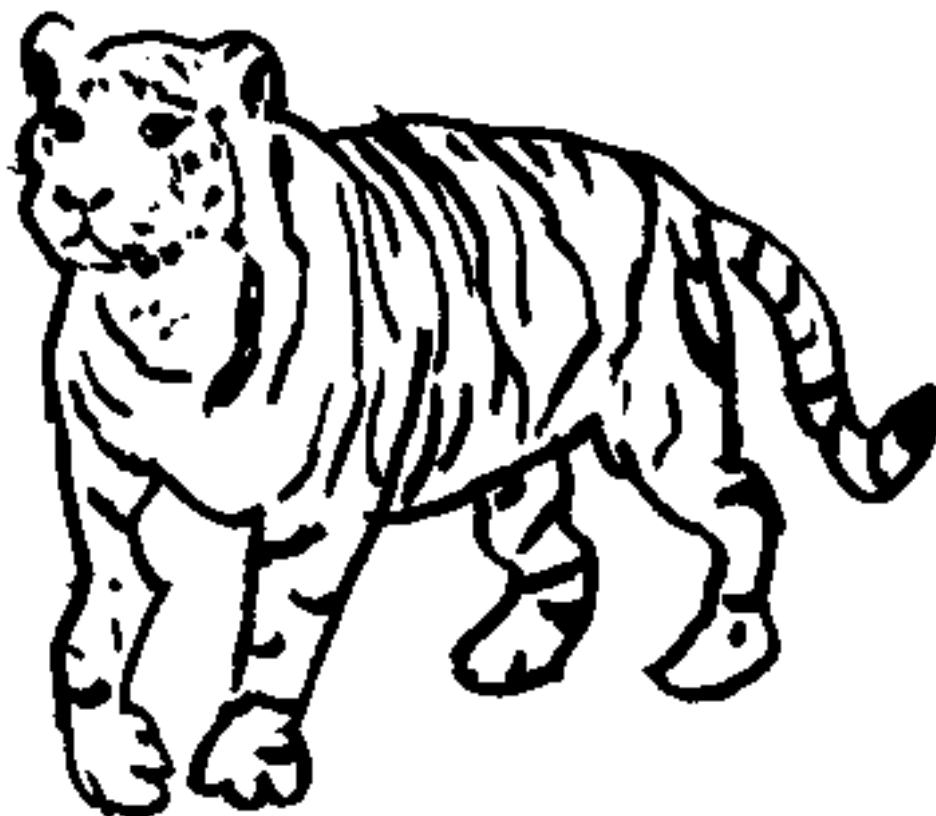
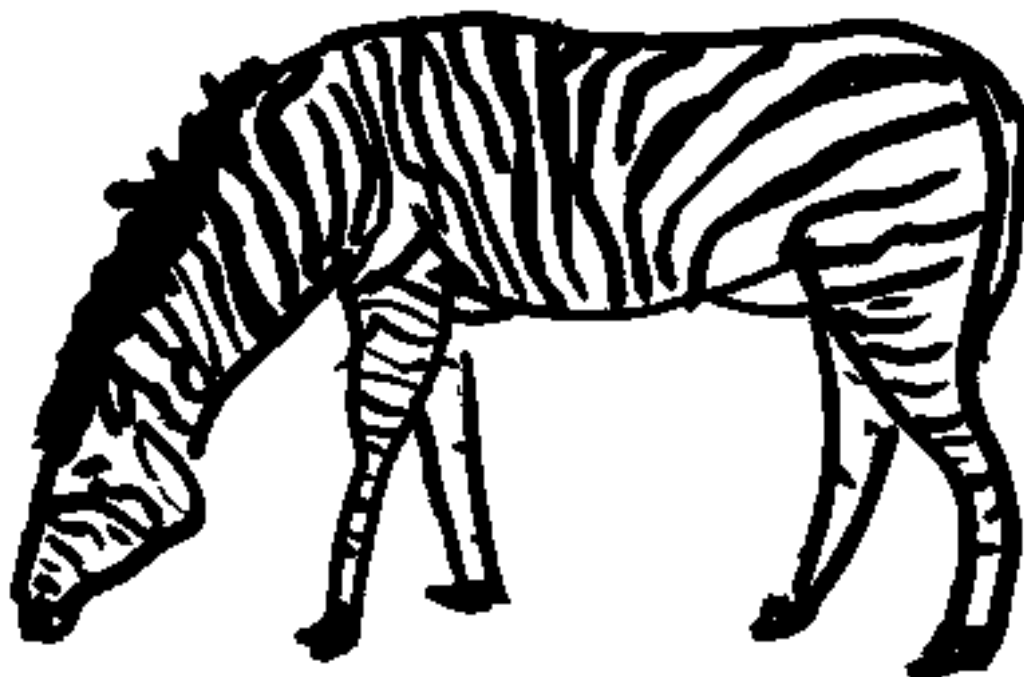
“I can see that you are very useful and an important color. I will remember to always take you out of the box with the other crayons when I draw,” said the girl to the black crayon.

“Maybe tomorrow we could draw going on an insect hunt at the park,” exclaimed the black crayon.

- Can you think of any insects that you would have to draw with a black crayon?
- What else can we draw with a black crayon?
- How are we like the black crayon?







We Are Alike and We Are Different

Content Standard I:

Students will develop a sense of self.

Objective 2:

Develop skills in gross and fine motor movement.

Intended Learning Outcome:

4. Develop physical skills and personal hygiene.

Content Connections:

Language Arts IV-3, VI-1, VII-2, VIII-5, 6; Math I-1

Content Standard I

Objective 2

Connections

Background Information

The face includes eyes, ears, mouth, skin color, hair, and a nose.

Invitation to Learn

Place ovals, mirrors, student photos, and yarn on the table.

Instructional Procedures

1. Talk about faces and what they consist of: eyes, ears, nose, mouth, hair, skin color.
2. Demonstrate how to make a face.
3. Have each student make their own face.
4. Let face dry.

Same day or the next day

5. When face is dry, demonstrate how to make book.
6. Have students make the *Face Book* (p. 3-11).
7. Place finished books around the room for students to read.

Possible Extensions/Adaptations/Integration

- Graph class eye and hair colors.
- Make a silhouette of the student's face.

Assessment Suggestions

- Observe that students draw all the features of the face.
- Observe the students as they create books.

Materials

- ☐ Cut out ovals (skin colors)
- ☐ Cut short and long hair out of different yarn colors
- ☐ Color copied picture of each student
- ☐ *Face Book*, assembled
- ☐ Mirrors for students to look in for their own hair and eye colors
- ☐ Glue

Additional Resources

Books

My Two Hands/My Two Feet, by Rick Walton; ISBN 0399233385

It's Okay to Be Different, by Todd Parr; ISBN 0316666033

The Nose Book, by Al Perkins; ISBN 0375824936

The Ear Book, by Al Perkins; ISBN 0394811992

The Eye Book, by Theo Lesieg; ISBN 0001712012

Family Connections

- Create different face puppets.
- Sing *Head, Shoulders, Knees, and Toes*.
- Look in a mirror and describe what they see to a family member.

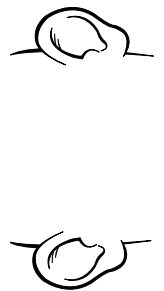
Face Book

I have _____ eyes.



I am _____ .

I have _____ ears. I have _____ nose.



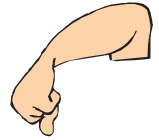
I have _____ feet. I have _____ hair.



I have _____ eyes.



I have _____ skin.



A Book About Me

Content Standard I:

Students will develop a sense of self.

Objective 2:

Develop skills in gross and fine motor movement.

Intended Learning Outcome:

4. Develop physical skills and personal hygiene.

Content Connections:

Language Arts IV-3, VI-1, VII-2, VIII-5, 6; Math I-1

Content Standard I

Objective 2

Connections

Background Information

The body consists of arms, hands, fingers, feet, etc.

Demonstrate how to measure with a crayon.

Invitation to Learn

Place books on the tables with crayons.

Instructional Procedures

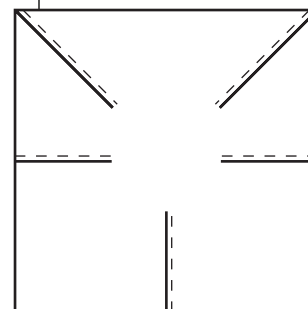
1. Discuss different parts of the body.
2. Discuss length and how to measure body parts.
3. Demonstrate how to make the book.
4. Each student will make their own book, *A Book About Me!* (p. 3-17).
5. Place books in a bookshelf for everyone to read.
6. Provide reading time later for students to read each others' books.

Possible Extensions/Adaptations/Integration

- Graph length of different body parts.
- Graph the height of the students.
- Make a 3D Tin Foil Man.
 1. Take a piece of tin foil and make four tears.
 2. Squish the tin foil into two arms, two legs, and a head.
 3. Place a piece of pipe cleaner in one of the arms or legs.
 4. Secure in a block or piece of Styrofoam.

Materials

- ☐ *A Book About Me* assembled
- ☐ Color copied picture of each student
- ☐ Crayons (to measure with as well as color with)
- ☐ Pencils
- ☐ Crayons



5. Position your tin man into an action.
6. Write a sentence about what your tin man is doing.

Assessment Suggestions

- Does the student use the ruler the right way?
- Is the student able to identify the various body parts?

Additional Resources

Hop, Skip, Jump, by Nicola Tuxsworth; ISBN 075480383X

My Two Hands/My Two Feet, by Rick Walton; ISBN 0399233385

It's Okay to Be Different, by Todd Parr; ISBN 0316666033

Hand, Hand, Fingers, Thumb, by Al Perkins; ISBN 0001712012

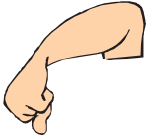
Family Connections

- Measure a family member at home.
- Make another tin foil man at home.

A Book About Me!

By _____

I have an arm.



My arm is ____ crayons long.

I have a hand.



My hand is ____ crayons long.

My arm can _____.

My hand can _____.

I have a foot.



I have a leg.



My foot is ____ crayons long. My hand is ____ crayons long.

My foot can ____.

My leg can ____.

I have a finger.



I have a body.



My finger is ____ crayons long. My body is ____ crayons long.

My finger can _____. My body can _____.

Can You Do It? I Can Do It!

Content Standard I:

Students will develop a sense of self.

Objective 2:

Develop skills in gross and fine motor movement.

Intended Learning Outcomes:

4. Develop physical skills and personal hygiene.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts I-1; Math II-1; Content III-2

Content Standard I

Objective 2

Connections

Background Information

We can make all kinds of movements with our bodies.

We can make some movements like animals.

Invitation to Learn

Place *Pictures of Animals* (p. 3-23) and *Pictures of Actions* (p. 3-24) around the room or on a table. Ask how these items go together.

Instructional Procedures

This activity focuses on physical movements. Students will make the same movements that different animals would make.

1. Read *From Head to Toe*.
2. Recall the story by asking questions about what actions the animals do.
3. Reread the story, imitating the actions.
4. Ask students their favorite actions and why.
5. Students can make up a pattern by performing the different actions.

Materials

- ☐ *Pictures of Animals*
- ☐ *Pictures of Actions*
- ☐ *From Head to Toe*

Possible Extensions/Adaptations/Integration

- Sing *I Can Do It!* (Tune: “Where is Thumbkin”)
I can do it!
I can do it!
Yes, I can!
Yes, I can!
Everyone can do it!
Everyone can do it!
Yes, we can!
Yes, we can!
- Imitate their favorite animal movements.
- Draw a self portrait and identify the different body parts.
- Sing *Head, Shoulders, Knees, and Toes*.
- Graph the favorite actions of the students.
- Make pencil streamers.

Assessment Suggestions

- Match animal to the correct action.
- Identify different body parts.

Additional Resources

Books

From Head to Toe, by Eric Carle; ISBN 0694013013

Clap Your Hands, by Lorinda Bryan Cauley; ISBN 0399237100

How Can You Dance, by Rick Walton; ISBN 039923229X

I Can Do It Too!, by Karen Baicker; ISBN 1929766831

Silly Sally, by Audrey Wood; ISBN 015019901












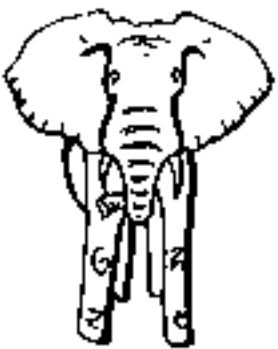
Web site

<http://www.gameskidsplay.net>

Family Connections

- Send home matching game.
- Sing *Head, Shoulders, Knees, and Toes*.

Pictures of Animals

 <p>penguin</p>	 <p>giraffe</p>	 <p>parrot</p>
 <p>buffalo</p>	 <p>monkey</p>	 <p>seal</p>
 <p>gorilla</p>	 <p>cat</p>	 <p>crocodile</p>
 <p>camel</p>	 <p>donkey</p>	 <p>elephant</p>

Pictures of Actions

 <p>turn head</p>	 <p>bend neck</p>	 <p>raise shoulders</p>
 <p>wave arms</p>	 <p>clap hands</p>	 <p>thump chest</p>
 <p>arch back</p>	 <p>wiggle hips</p>	 <p>bend knees</p>
 <p>kick legs</p>	 <p>stomp foot</p>	 <p>wiggle toes</p>

Washing Hands

Content Standard I:

Students will develop a sense of self.

Objective 1:

Describe and practice responsible behaviors for health and safety.

Intended Learning Outcomes:

4. Develop physical skills and personal hygiene.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts I-1; Math II-1; Content III-2

Content Standard I

Objective 1

Connections

Background Information

Germes can be found everywhere; they are just so tiny that we can't see them. There are good germes and bad ones. Two kinds of germes that will make us sick are called bacteria and viruses. We can get these germes from other people who cough or sneeze and don't cover their mouth. We can also get germes from not washing our hands long enough with soap.

Invitation to Learn

Have soap, Ziploc bags, and potatoes on the table.

Instructional Procedures

Talk about germes. Talk about where they are found and how they are spread. Discuss how you can help prevent germes from spreading. Talk about why it is important to use soap.

1. Students will be divided into three groups.
2. Each group will handle two pieces of peeled potato, then place them into a separate sealed Ziploc bag.
 - Group 1*—Will not wash their hands
 - Group 2*—Will wash with cold water
 - Group 3*—Will wash with soap and warm water
3. The bags will then be placed on a wall at an eye level for the students to watch them for the next week.
4. The growth will be charted on a picture graph next to the Ziploc bags.

Materials

- ☐ Two potatoes cut into chunky slices and stored in salt water
- ☐ Six Ziploc sandwich bags
- ☐ Soap
- ☐ Poster board or paper for signs
- ☐ Wall space to display experiment at eye level

5. Students will graph (on a separate graph) their prediction of what might happen.
6. At the end of this experiment, your results should be quite different. The potatoes that were touched by the unwashed hands should have a greater bacterial growth than those touched by hands washed with soap.

Possible Extensions/Adaptations/Integration

Germs

Talk about germs in your mouth

- Apple experiment
 1. Take two apples.
 2. Poke a nail hole in the side of one of the apples.
 3. Place each apple in a separate paper bag for a week.
 4. Take both apples out and look at them before cutting them in half, the one through the nail hole.
 5. Talk about what happened to the apple. Compare it to our teeth and when we get cavities.
- Egg experiment #1
 1. Use a hard boiled egg and compare the shell to the enamel on our teeth. The enamel protects the tooth just like the shell protects the egg.
 2. Place the egg in vinegar for a few minutes.
 3. Take the egg out and poke an indentation into the side of the shell. Compare it to a cavity.
 4. Talk about how it is important to clean our teeth.
- Egg experiment #2
 1. Take two boiled eggs.
 2. Place one in cola overnight and the other in vinegar.

The cola will stain the shell and the vinegar will dissolve the shell. Compare your finding to what might happen if you don't brush and floss your teeth.
- Demonstrate how to brush your teeth.
- Paint with a toothbrush.
- Talk about sneezing and coughing.
- Make a sneezing/coughing face.

1. Have each student make their face on a oval piece of paper.
 2. Trace both hands on a paper and cut it out.
 3. Last glue on the hands at the bottom of the face and a tissue under one of the hands.
- Play *Find Your Potato* game.
 1. Give each child a potato right out of the bag.
 2. Let each child study their potato.
 3. Place all of the potatoes in a big bowl.
 4. Have each child try and find their potato.
 5. Repeat activity, this time have a neighbor find your potato.
 6. Talk about how everyone is different.

Assessment Suggestions

- Watch how the students graph the growth on the potatoes each day.
- Observe students to see if they are doing a better job at washing their hands after the lesson.
- Observe if the students are more health conscious when they have a runny nose or are sneezing around others.

Additional Resources

Books

Little Rabbit's Loose Tooth, by Lucy Bate; ISBN 0517551225

Germs Make Me Sick!, by Melvin Berger; ISBN 0064450988

Web site

<http://www.healthyhands.com>

Family Connections

- Draw fun pictures of washing our hands to hang up around the house.
- Have students explain to a family member the proper way to wash hands.

***Math
Standard I
Activities***

Recognizing Numerals and Numbers

Math Standard I:

Students will understand simple number concepts and relationships.

Objective 1:

Identify and use whole numbers.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
4. Develop physical skills and personal hygiene.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Content I-1

Math Standard

I

Objective

1

Connections

Background Information

Number sense is a way of thinking about numbers and quantities that is flexible and must be developed by each individual student. One author calls it “friendliness with numbers.” Number sense grows as students are exposed to activities that cause them to think about numbers in many ways and in different contexts. A person has “number sense” if s/he has an intuitive feel for number size and combinations, as well as the ability and facility to work with numbers in problem situations in order to make sound decisions and reasonable judgments. Helping students to develop number sense requires appropriate modeling, posing process questions, encouraging thinking about numbers, and creating a classroom environment that nurtures number sense.

Invitation to Learn

Read the following prompt from the overhead projector: “Close your eyes and try to remember places where you have seen numerals.”

Instructional Procedures

1. Say, “As I read this story, raise your hand when you hear a place where you have seen numerals.”
2. Read *Numbers All Around Me*.
3. Discuss places we see numbers. Ask: “Have you thought of anything that I did not read in this story?”
4. Students can work with numbers easily during daily opening meetings. Use *Number Flips* (p. 4-7) and attach them to daily concepts.

Materials

- ☐ *Numbers All Around Me*
- ☐ Television and VCR
- ☐ *Number Flips* master
- ☐ Scissors
- ☐ Paper punch
- ☐ One chicken ring for each participant
- ☐ One dot cube
- ☐ One numeral cube
- ☐ One numeral spinner (1-9)
- ☐ Beans
- ☐ *Roll and Cross Out* handout
- ☐ *Spot Number Dots* masters

Connecting Numeral to Number

It is important for students to connect the numeral (symbol) to the number (quantity in a set). This has to be done in many different ways with kindergarten students.

- For individual assessment, use *Number Flips* (p. 4-7) with paper plates that have colored dots on them. Say, "Show me the numeral."
- Games are wonderful ways for students to make connections to numerals before they have to write them.

Play the following games:

Roll My Number

1. All students stand up.
2. Each student has a number cube.
3. Teacher says a number and when a student rolls that numeral, s/he may sit down.

Cross out your telephone number

1. Teacher will have each child's telephone number written on a card with the child's name.
2. Using a 0-9 numeral spinner, the student takes a turn and spins. If the spinner lands on a numeral that is in his/her telephone number, it may be crossed out.
3. When the entire telephone number is crossed out, the student can move to another activity. (If the child does not have a telephone, perhaps a relative's number could be used.)

Mary Lou's Roll and Cross Out

1. Using the *Roll and Cross Out* handout, each player uses a dot cube (die) and rolls it when it is his/her turn.
2. Whatever number comes up, the student puts an X in a box above the numeral.
3. When s/he gets one column of the same number crossed out, the worksheet is considered complete.

Jumbled Numbers

(Similar to *Math Their Way Crazy Mixed Up Numbers*.)

This game can be played with partners or with four students at a table.

1. Using the *Spot Number Dots* masters (p. 4-9), students draw a card from the set of shuffled numeral cards in the center of the table.

2. The card is placed over the dots that match the numeral.
3. The winner may be determined by the first to get three in a row, or the first to get the entire card covered.

Possible Extensions/Adaptations/Integration

- Attach numerals to everything that is done during the day: Count how many words are in a sentence; count how many letters are in the word, etc. Ask: “How many more or less?”
- When graphing, be sure to attach a numeral to each column.

Adaptations for students with special needs

- The numerals could be tactile so in addition to seeing the numeral, students could trace and feel it with fingers.
- Put the dots under the numeral to allow students to count to know what the numeral is.

Assessment Suggestions

Teacher assessment in kindergarten is primarily by keen observation of the students as they interact with the teacher. Can the child identify a specific numeral when asked? Can the child tell the difference between a numeral and an alphabet letter? Can the child point to the correct numeral when asked? However, an easy pencil/paper assessment may be done by printing the numerals 1-10 on a sheet of paper in random order and asking the child to touch each numeral and tell you its name. This is done in August on the state kindergarten pre-assessment test and again in May on the state post-assessment test. This kind of assessment should be done at the end of each term.

Additional Resources

Numbers All Around Me, by Trisha Callella Jones (Creative Teaching Press); ISBN 1-57471-377-9

Looking for Numbers, by Margie Burton, Cathy French and Tammy Jones; ISBN 1-58344-208-1

Family Connections

- Send a note asking parents to go on a number hunt with their child and write down or draw all the places they see numbers.
- Using a take-home note, have students look at their house and copy the numerals on their house, copy the numerals on their car's license plate, and any other numerals they see at home.
- Encourage parents to allow their children to freely explore a calculator to see how numbers work.
- Encourage parents to use an old telephone, or unplug their phone, and let their child punch in the numbers of their phone number.

Number Flips

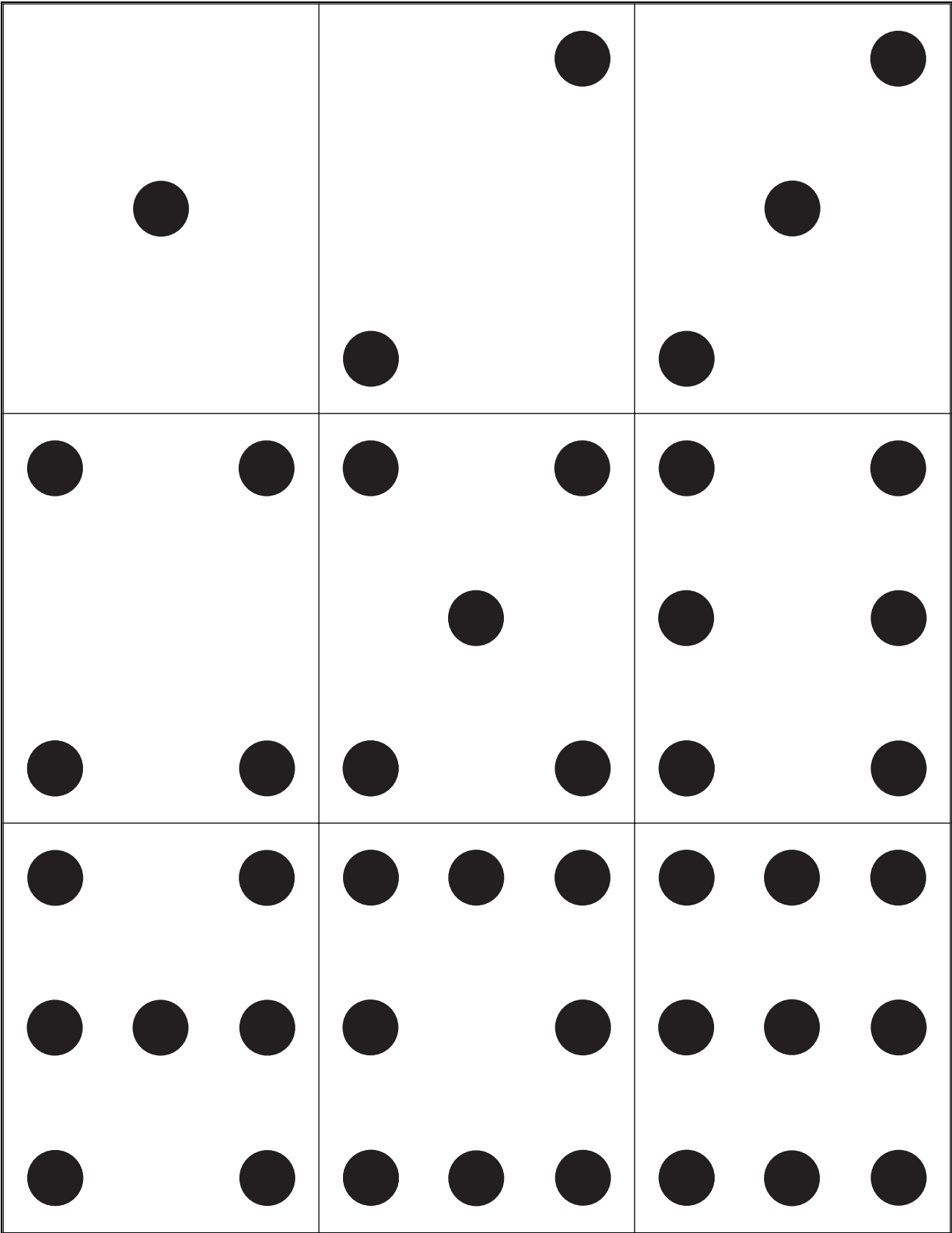
0	1	2	3	4
5	6	7	8	9
0	1	2	3	4
5	6	7	8	9

Name _____

Roll and Cross Out

1	2	3	4	5	6

Spot Number Dots



Spot Number Numerals

1

2

3

4

5

6

7

8

9

M&M's Game

Math Standard I:

Students will understand simple number concepts and relationships.

Objective 1:

Identify and use whole numbers.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
3. Demonstrate responsible emotional and cognitive behaviors.
4. Develop physical skills and personal hygiene.

Content Connections:

Language Arts I-2, 3

Math Standard

I

Objective

1

Connections

Background Information

Students will readily be interested in this activity because they are able to eat what they know. Teachers will be able to assess which numerals students know and if they can correctly connect the numeral to an appropriate quantity of M&M's.

Invitation to Learn

“Raise your hand if you like M&M's.” (Students also enjoy, “Stand up if you like M&M's.”) “Today you will have a chance to eat some.”

Instructional Procedures

1. Demonstrate how to play the game by rolling a numeral cube, taking that many M&M's from the cup, and eating them (or putting them in a portion cup).
2. The game is over when all the M&M's are gone.

Materials

- ☐ Portion cups
- ☐ M&M's
- ☐ Numeral cube for every two to four participants

Possible Extensions/Adaptations/Integration

1. Some students could write the numeral under a color word before they select and eat the identified quantity and color of M&M's.
2. For students who have not yet mastered numerals, a dot die could be used so students could count how many dots come up and then take that many M&M's.
3. Children with special dietary needs (e.g., diabetes, allergies, etc.) could have other things to eat (e.g., crackers, cheese cubes, marshmallows, etc.).

Assessment Suggestions

- Other students are great helpers for assessing this game. They make sure other students take just the right amount.
- Teacher observation is the best assessment for this kind of game. Walk around with a clipboard and Post-it® notes to make quick notes of which students need special help.

Additional Resources

M&M Book, by Barbara Barbieri McGrath; ISBN 0881068535

Family Connections

Encourage students to play this game with their family.

Writing Numerals

Math Standard I:

Students will understand simple number concepts and relationships.

Objective 1:

Identify and use whole numbers.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
4. Develop physical skills and personal hygiene.

Content Connections:

Content I-3; Language Arts I-1, VIII-5

Math Standard

I

Objective

1

Connections

Background Information

Muffet Reeves once said that writing numerals falls in a “no man’s land.” Handwriting programs think that math will teach it and math programs assume that it is a handwriting skill, so no program really handles writing numerals effectively. *Math Their Way* does an excellent job of introducing handwriting to kindergarten students, but doesn’t do very much with the paper/pencil part of practicing writing numerals.

Invitation to Learn

You are cordially invited to my kindergarten classroom at Park School during December of last year. This is how I chose to teach numeral writing to my kindergarten students. Here is your chance to be a fly on the wall and see what really happens in a kindergarten classroom. So sit back and enjoy for a few minutes—we will discuss what happened when the video is over.

Instructional Procedures

1. Show a ten-minute segment of the video of class writing lesson.
2. Discuss the *Number Rumba* master (p. 4-15).
3. Discuss the *Numeral Writing Song* master (p. 4-16).
4. Discuss *Metro Math Readers*. Show the small books. Discuss their value, where they are available, price, etc.
5. Point out the guided practice and independent practice *Writing Worksheets* (p. 4-17).

Materials

- ☐ Television and VCR
- ☐ *Number Rumba* master
- ☐ *Numeral Writing Song*
- ☐ *Metro Math Readers*
- ☐ *Writing Worksheets* masters

Possible Extensions/Adaptations/Integration

- Have students write numerals whenever sorting, graphing or comparing objects.
 - Writing activity prompt: My favorite numeral is _____ because_____.
- These make great class books.
- *Adaptations for special needs:* Using markers instead of crayons provides more motivation than just using crayons.
 - Refer to *Math Their Way* for other detailed activities (pages 42-51) to help students learn to write numerals.

Assessment Suggestions

Writing numerals can easily be assessed by having students just write the numerals either in order or as they label sets. Periodically, it is good for the teacher to watch how each individual student forms the numerals because sometimes they will look right, but will have been formed in an unusual way.

Additional Resources

Math Their Way, by Mary-Baretta Lorton (1995);
ISBN:0-201-86150-X

Metro Math Readers, Metropolitan Teaching and Learning Company,
33 Irving Place, New York, NY 10003, www.metrotlc.com

Family Connections

- Encourage students to count and write numerals at home using the *Family Activity* master (p. 4-19).

Number Rumba

The musical score for "Number Rumba" consists of four staves of music. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a 4/4 time signature. The melody is written in eighth and sixteenth notes. Chord markings above the staff include F, Gm7, C7, and F. The lyrics "Let's do the num-ber rum-be (cha-cha-Let's do the num-ber rum-ba (cha, cha-cha)" are written below the staff. The second staff continues the melody with the lyrics "Let's do the num-ber rum-ba (cha-cha) num-ber rum-ba all day long. (yeah)". The third staff has the lyrics "Num-ber one, Num-ber one num-ber one is lots of fun, D.C. al Fine". The fourth staff has the lyrics "Num-ber one Num-ber one num-ber one all day long. (yeah)".









- 2: Number two, number two.
Two big feet on a kangaroo.
Number two, number two,
Number two all day long.
- 3: Number three, number three
Three bananas on banana tree,
Number three, number three
Number three all day long.
- 4: Number four, number four,
Four fine friends sat on the floor.
- 5: Number five, number five,
Five busy bees in a big bee hive.
- 6: Number six, number six,
Six little bugs on six big sticks.
- 7: Number seven, number seven,
Seven black clouds raining down from heaven.
- 8: Number eight, number eight,
Eight green peas sitting on a plate.
- 9: Number nine, number nine,
Nine mosquitoes down my spine.
- 10: Number ten, number ten,
Ten loud cheers and we start again.

Numeral Writing Song

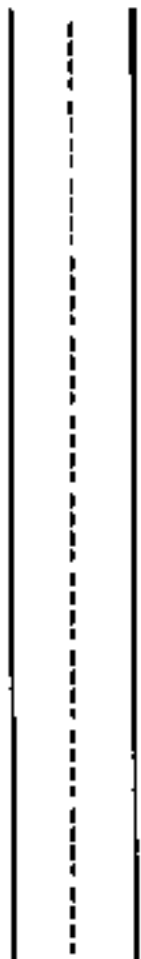
TUNE: “Skip to My Lou”

- 0: Curve around and curve it up
(Repeat three times)
To make the numeral zero.
- 1: Start at the top and come straight down
(Repeat three times)
To make the numeral one.
- 2: Half way around and slide to the right
(Repeat three times)
To make the numeral two.
- 3: Circle around and around again.
(Repeat three times)
To make the numeral three.
- 4: Down, slide, cut it in half
(Repeat three times)
To make the numeral four.
- 5: Put on his hat, come down and around
(Repeat three times)
To make the numeral five.
- 6: Come right down and give it a curl.
(Repeat three times)
To make the numeral six.
- 7: Slide to the right and then slant down.
(Repeat three times)
To make the numeral seven.
- 8: Make an “s” and go straight home
(Repeat three times)
To make the numeral eight.
- 9: Circle around and then slant down
(Repeat three times)
To make the numeral nine.

Writing Worksheet

Writing Worksheet



Draw and color 7 happy faces.

x	x	x
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x

Names _____

Family Activity

Write the numeral for how many of each thing you have in your house:

1. windows _____

2. doors _____

3. beds _____

4. tables _____

5. rooms _____

6. chairs _____

7. sinks _____

8. bathtubs _____

***Content
Standard II
Activities***

Character Education Read Alouds

Content Standard II:

Students will develop a sense of self in relation to families and community.

Objective 1:

Describe factors that influence relationships with family and friends.

Intended Learning Outcomes:

2. Develop social skills and ethical responsibility.
3. Demonstrate responsible emotional and cognitive behaviors.

Content Connections:

Language Arts I, VII; Content I-3

Content Standard II

Objective 1

Connections

Background Information

The enduring understanding for Standard II is for students to be able to discuss “What is the relationship?” Therefore, students need to know what the word relationship means. Relationship can be defined as a connection between ideas and/or people. Perhaps the best way to help our young students see the relationships between people and their feelings and ideas, is to begin by developing empathy for one another. Empathy is the ability to identify with, and feel another person’s concerns. The six basic emotions include happiness, sadness, anger, surprise, fear, and disgust. Students need to learn to respectfully listen to one another in order to identify how another person is feeling. Students may need to adjust their behavior to help a peer that may be in need of some extra care at the time. Rich conversation and good role models, provided by the teacher, can give students the chance to learn how to positively interact with friends and family. Sharing quality literature provides the teacher with great opportunities for the class to discuss the interactions and feelings of people. It also allows the students to make connections based on their own feelings and experiences.

Invitation to Learn

Tell the students that you are going to read a story to them about a girl who gets teased. Her name is Molly Lou. Ask the students to think in their mind the answer to the following three questions.

1. Have you ever had a time when someone was not nice to you?
2. How did that make you feel?
3. What did you do to solve the problem?

Discuss each question with the class. Ask the students, “As we read the story together listen to find out how Molly Lou solves her

Materials

One per group:

- ☐ *Stand Tall, Molly Lou Melon*
- ☐ *Good Listener* chart
- ☐ *Feelings* chart
- ☐ Vis-à-Vis® pen

One per student:

- ☐ *Small Feelings* chart
- ☐ Pencil

problem. Let's see if our ideas are the same or different from the character in the story."

Instructional Procedures

1. Read the story to the class. You may wish to pause at appropriate places as you are reading to discuss the three questions used to introduce the story.
2. Have the students sit in pairs to discuss the questions asked below in #5.
3. Show the students the *Kindergarten Good Listener* charts (p. 5-8).
4. Review what good listeners do.
 - Good listeners sit straight across from each other.
 - They look at each other.
 - One person is quiet while the other person talks.
 - They also keep their hands to themselves.

Now students are ready to listen to the teacher ask each question.

5. Students should take turns listening to each others' responses to the questions.
 - Who is the main character in the story?
 - What was the problem the character had to solve?
 - How did the character feel about the problem?
 - What were your feelings as you were reading this story?
6. As an entire class, record some of the responses to the questions on the class *Feelings* chart (p. 5-10).
7. Repeat this process for another character in the story.
8. Compare the actions and feelings of the characters in the story.
9. Ask the question, "What is the relationship between these characters and why?" Remember, discussing this question will help students develop an understanding of the "big idea" in Standard II. This type of lesson should be repeated often with a variety of literature that explores how people get along with each other.

Possible Extensions/Adaptations/Integration

Character Study

Another way to look at the relationship of characters in a story is to use a *Character Study Guide* (p. 5-11). Follow the same procedure as described previously. Use the following guide words to discuss the actions of the characters: 1. Who? 2. Did what? 3. When? 4. Where? 5. Why? Once again, ask the question, “What is the relationship between the characters and why?”

What Is The Connection?

After reading a story to your class, encourage them to make their own personal connection to the story. Teachers may use a *What Is The Connection?* schema guide (p. 5-12) to record student responses. Students may identify a text to self, text to text, or text to world connection. The teacher, or the student, may write and draw the response on a Post-It® note and place it on the corresponding space of the class chart.

Emotion Cards

1. Assemble a variety of pictures from magazines or computer programs that depict different emotions. The six basic emotions include happiness, sadness, anger, surprise, fear, and disgust (see p. 5-13).
2. Glue the pictures to heavier index or cardstock paper. Leave some space on the heavier paper so you can write a variety of words to describe the emotion shown on the card. Laminate the pictures.
3. Show the class one picture at a time. Ask them to tell you words that describe the emotion they see.
4. Using a Vis-à-Vis® pen, write the words on the laminated card.
5. Show the emotion cards again, and again, at different times.
6. Write more vocabulary words to the card to describe the emotion. For example, the picture showing anger may have the words mad, upset, and furious written on the card.
7. These cards may be placed in the front of the classroom for students to refer to as they work on the *Feelings* chart. .

Assessment Suggestions

After reading a variety of stories in which the children share responses to the character's actions and feelings the following kind of assessment may be given. Tell the students you are going to read a story about a character who has a problem. Tell them at the end of the story they will be asked to draw and write their ideas about the story on a *Feelings* chart of their own. A teacher or volunteer helper could be a scribe for the student if the writing portion is too difficult for them. This assessment could be given at different times throughout the year to determine comprehension in this area.

However, the ultimate way to show proficiency in Standard II, Objective I is by having students demonstrate positive care and concern for each other in their daily experiences together. For example, do they share? Do they listen respectfully to each other? Do they take turns?, etc.

Additional Resources

Books

Stand Tall, Molly Lou Melon, by Patty Lovell; ISBN 0439434521

Building Moral Intelligence, by Michele Borba, Ed. D.;
ISBN 078796226

Odd Velvet, by Mary E. Whitcomb; ISBN 0811820041

Enemy Pie, by Derek Munson; ISBN 081182778

Hip, Hip Hooray for Annie McRae, by Brad Wilcox;
ISBN 158685058

Chrysanthemum, by Kevin Henkes; ISBN 0440848121

Hooray for Wodney Wat, by Helen Lester; ISBN 0439200873

Lady Lollipop, by Dick King-Smith; ISBN 0763621811

CD

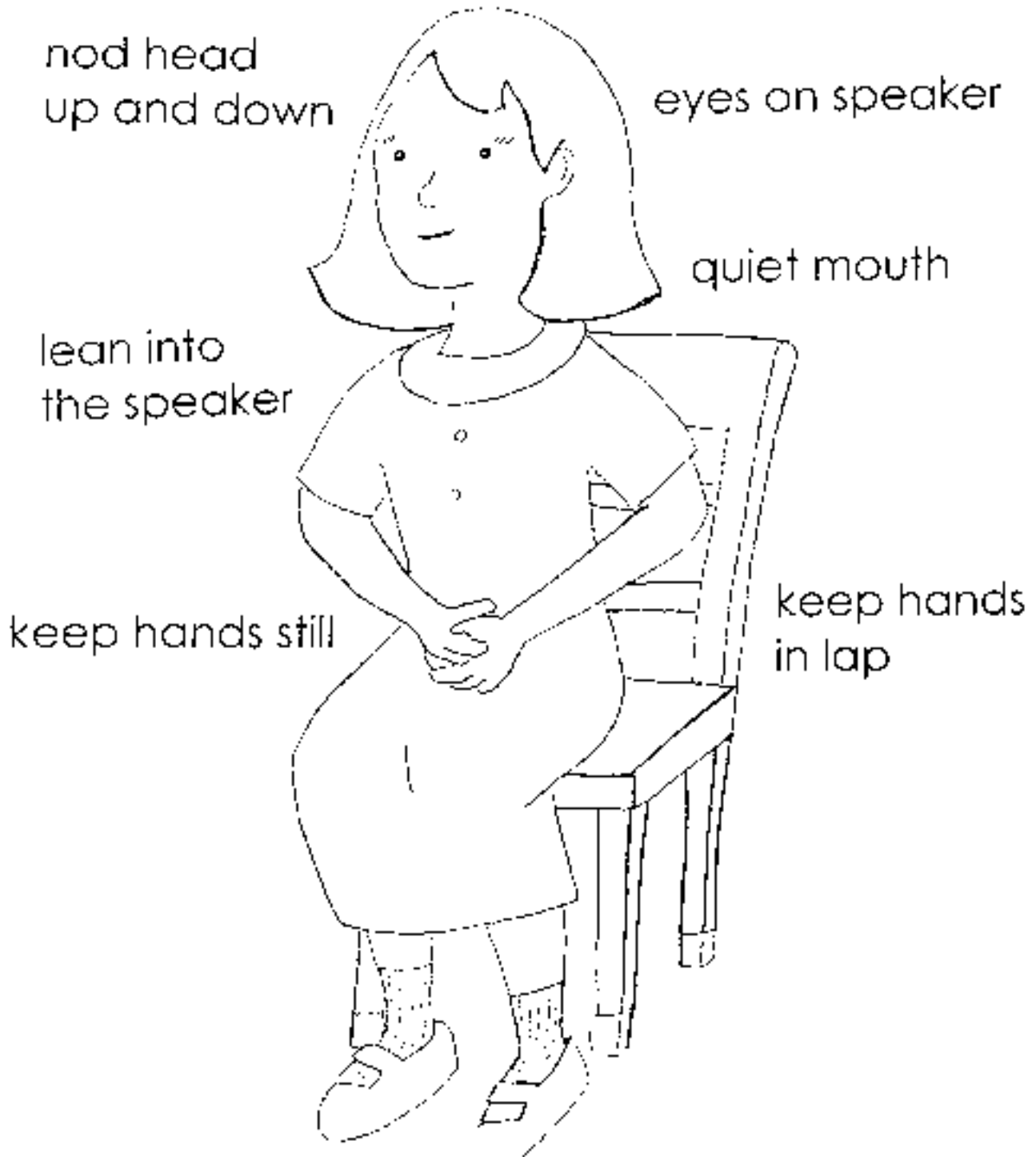
Prevention Dimensions Utah, Steve James music CDs: *Something Good*, *Take A Stand*, *Be A Builder*

Family Connections

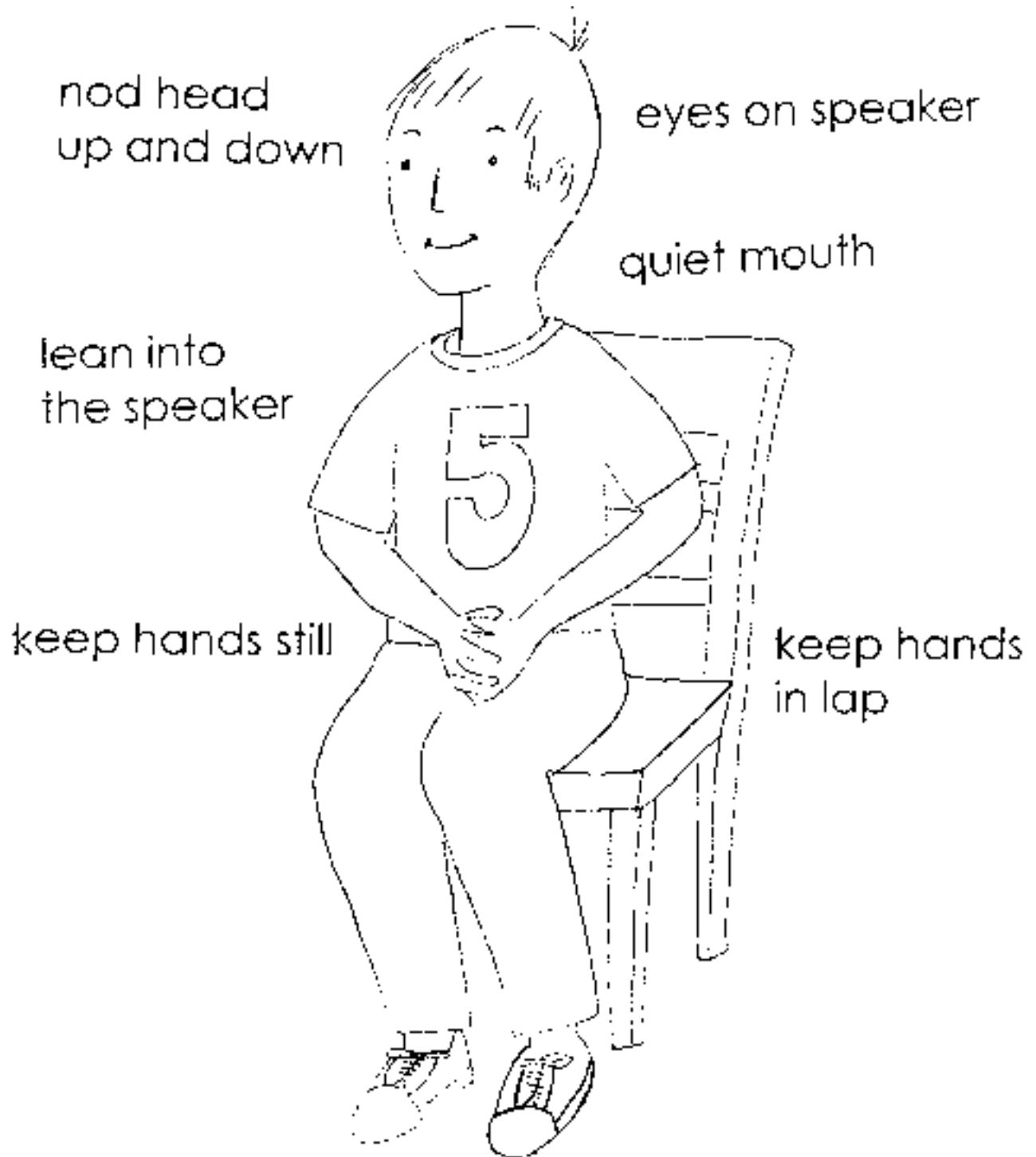
- One night a week, while eating dinner together as a family, discuss some of the feelings each family member experienced during the week. You may begin by saying, “What was the happiest moment you had this week?” Allow each family member to take a turn sharing his/her experience. This activity allows children to have conversations with their family, share their feelings and be acknowledged, as well as listen and show concern for others.
- Look for occasions to draw attention to people’s feelings and then ask your child to guess what the person might need in order to feel better. For example, a parent might say, “Look at that little boy sitting by himself near the playground. How do you think he feels?” The child may say, “He looks lonely.” The parent then says, “What do you think he needs to make him feel better?” The child responds, “He needs a friend to play with him.” This activity helps children become more aware of other people’s needs and ways we can help them.
- Read any children’s literature selection to your child. Read the same short passage each time, give your voice a different emotional tone (happy, angry, scared, surprised) and ask your child to guess what feeling you are trying to convey. This activity helps children recognize that our voices tell a lot about our mood.

These activities and many others can be found in *Building Moral Intelligence* by Michele Borba, Ed. D.; ISBN 2381239194.

Kindergarten Good Listener

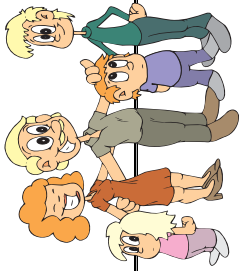


Kindergarten Good Listener



Names _____

Feelings



Title:		Author:	
Character	What Happened	Character's Feelings	My Feelings

Names _____

Character Study Guide



Title:		Author:	
Who?	Did What?	When?	Where?
			Why?

What Is The Connection?



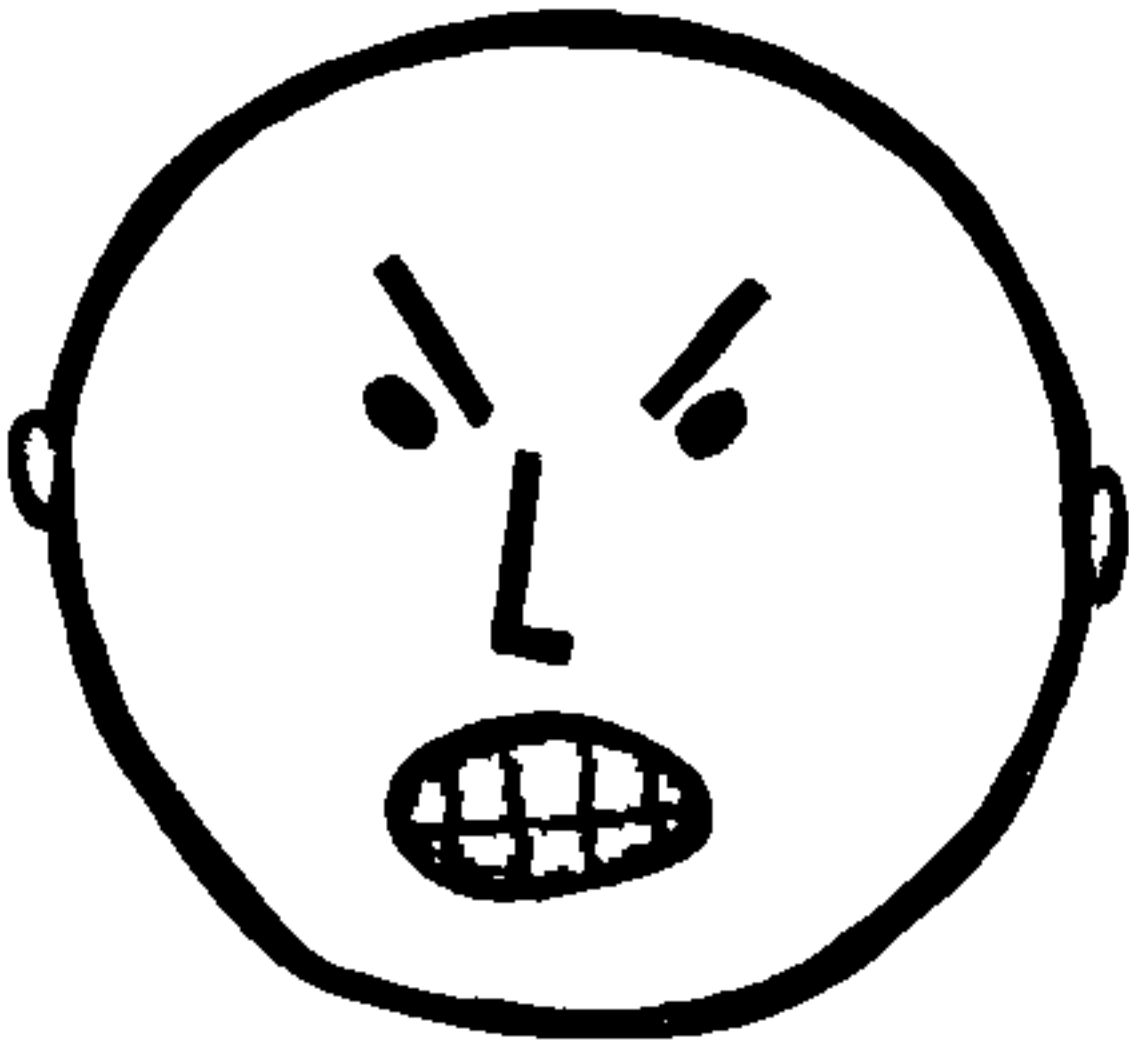
Self

Text

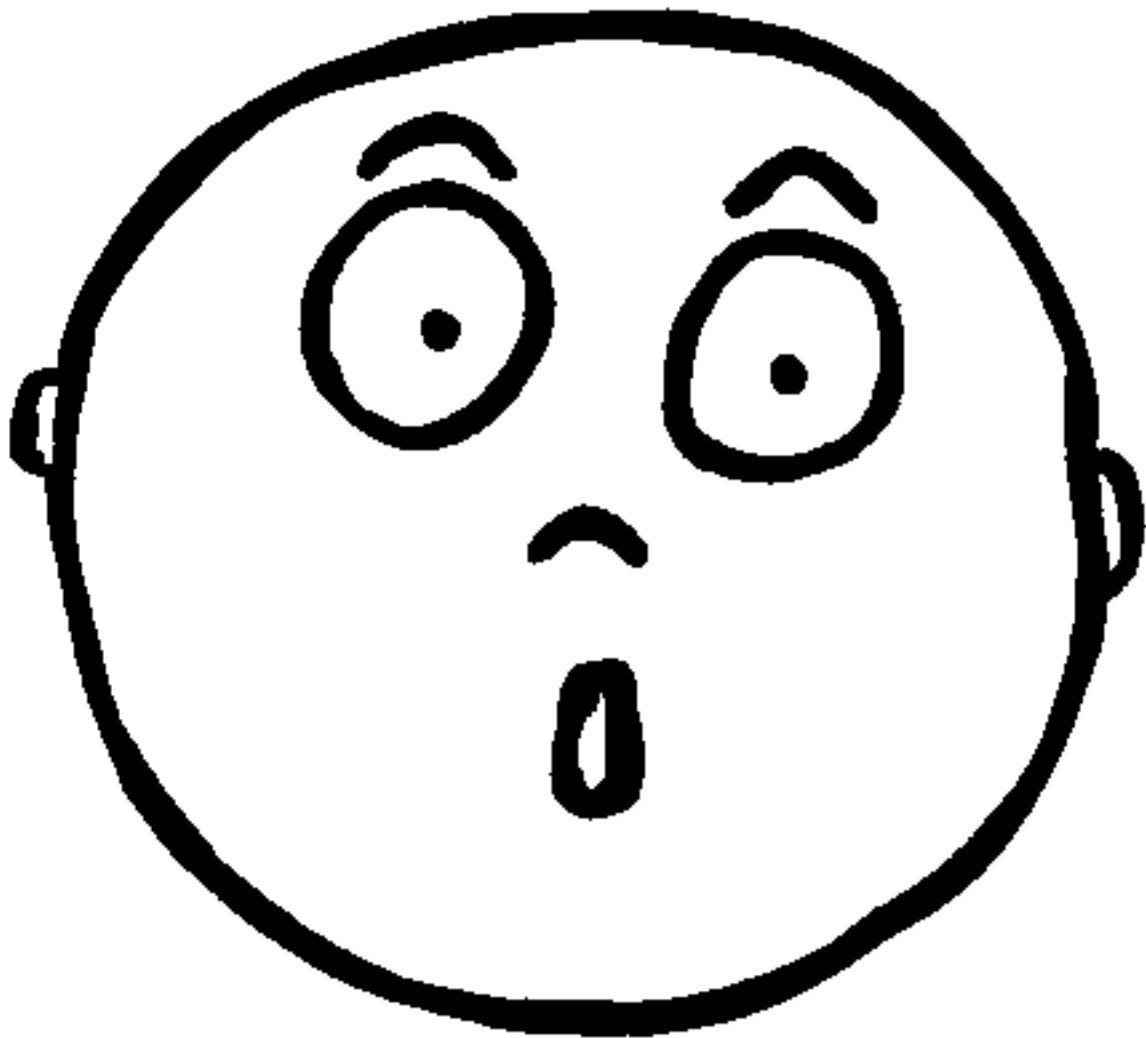
World

Basic Emotions

Anger



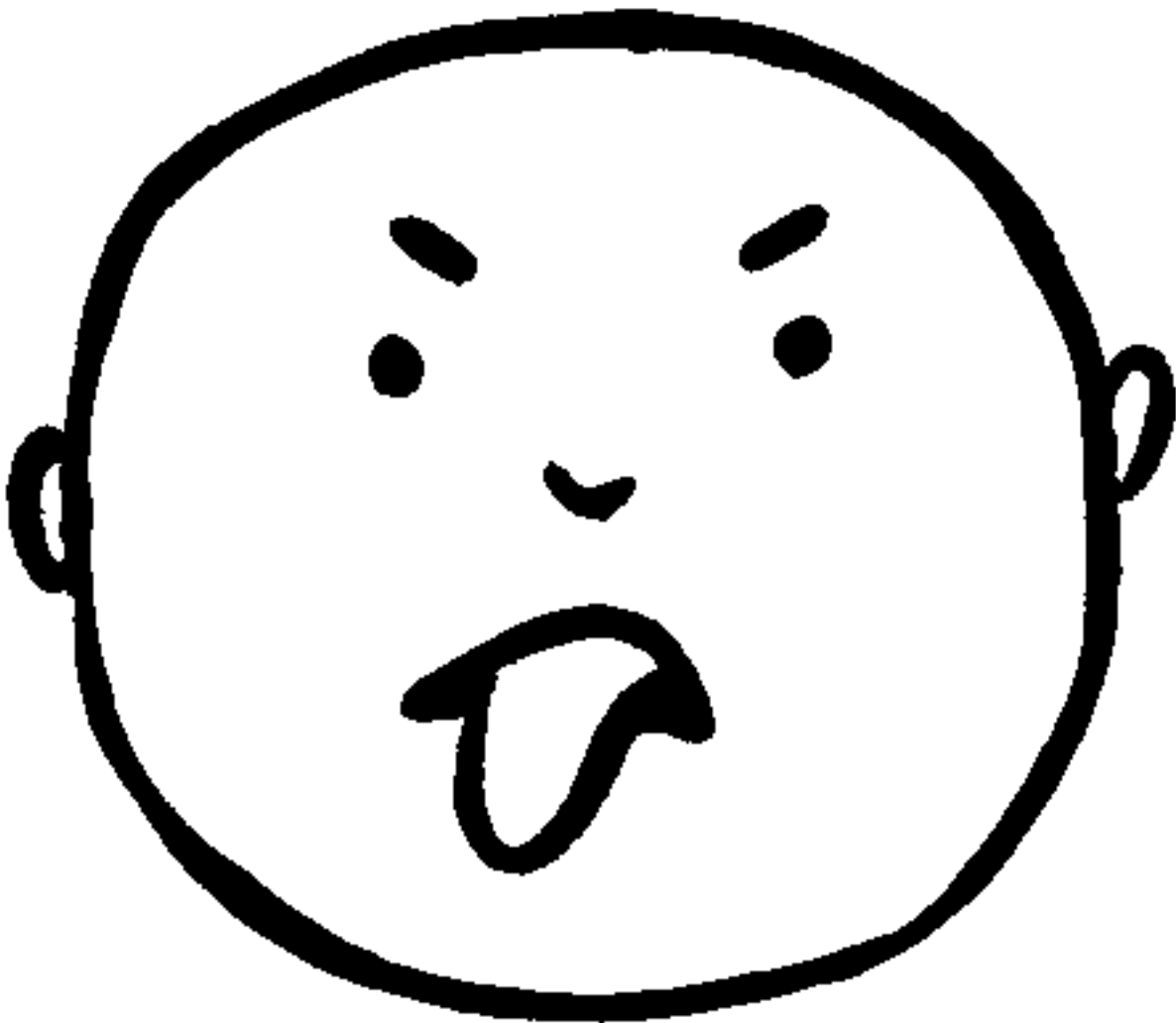
Surprise



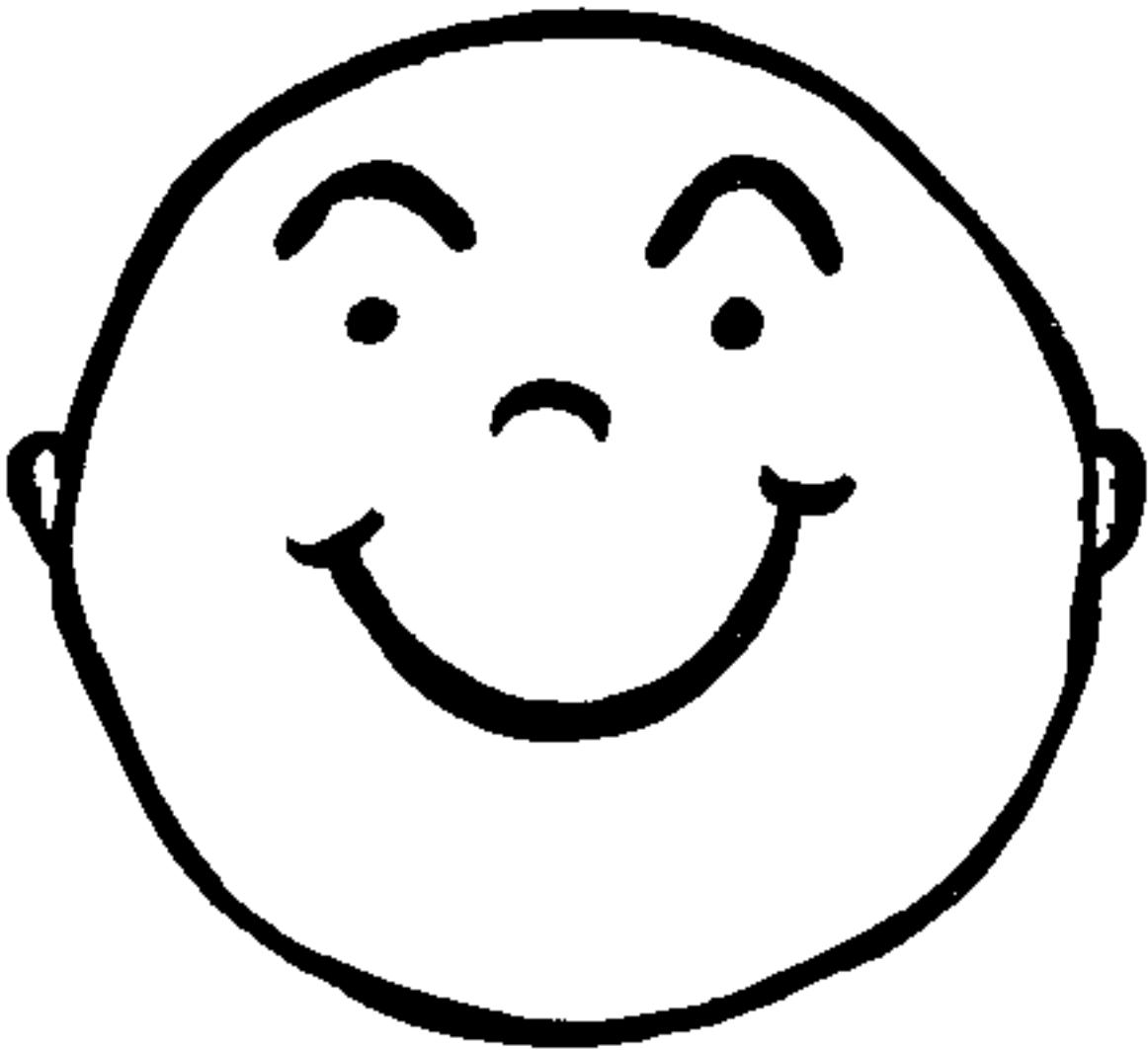
Sadness



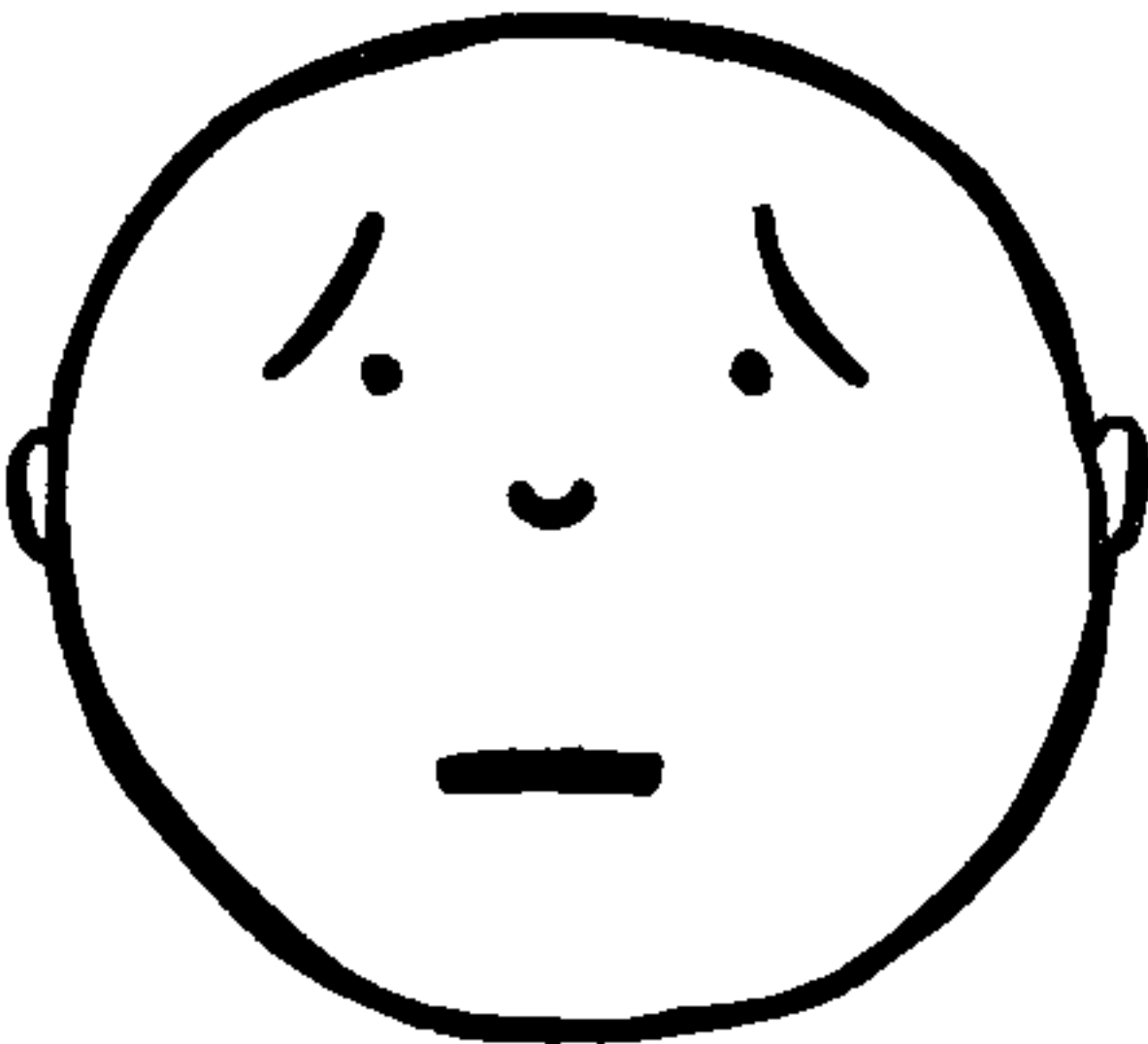
Disgust



Happiness



Fear



Author Study of Patricia Polacco's Family Stories

Content Standard II:

Students will develop a sense of self in relation to families and community.

Objective 1:

Describe factors that influence relationships with family and friends.

Objective 2:

Identify important aspects of community and culture that strengthen relationships.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
3. Demonstrate responsible emotional and cognitive behaviors.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts I, VI, VII, VIII; Math II

Content Standard II

Objectives 1 & 2

Connections

Background Information

The enduring understanding for Standard II is for students to be able to discuss, “What is the relationship?” The focus for this lesson is to discuss the relationship between family members. Emphasis should be placed on the contributions of family members and the traditions established to strengthen family relations. Therefore, the important concept is how people in a family help to care for one another. Each child should feel like their family is special and unique. Sensitivity should be shown during class discussions concerning the dynamics of individual families.

Author Patricia Polacco has written many books about her childhood and the family members who influenced her. Ms. Polacco shares family traditions from her Russian and Irish heritage. She talks about the relationships she had with her grandparents, parents, brother, aunts, uncles, and cousins as she was growing up, and explains important concepts she learned from these people. In every case she shares how the care and love she received from her family strengthened their relationships with each other. Ms. Polacco's stories provide an interesting and neutral way to begin discussions about families. Students can make connections from their own family experiences to some of her family experiences.

Invitation to Learn

Ask the class, “What are some things your family does to help you?” and “What are some things you can do to help your family?” Tell the students that during the next week we will be reading stories about families and talking about our own families. We want to think of many different ways that families help each other.

Instructional Procedures

Materials

One per class:

- ☐ *The Keeping Quilt*
- ☐ *The Bee Tree*
- ☐ *Thunder Cake*
- ☐ *When Lightning Comes In a Jar*
- ☐ *My Ol’ Man*
- ☐ *My Rotten Redheaded Older Brother*
- ☐ *Some Birthday!*
- ☐ *Story Structure* chart
- ☐ 2 7/8 in. x 2 7/8 in. Post-It® notes
- ☐ Markers or crayons

One per student:

- ☐ *Family Traditions Survey*
- ☐ *My Family Traditions* book
- ☐ Pencil
- ☐ Crayons

1. Share Patricia Polacco family stories during read aloud time. Throughout the week, during read aloud time, share one of the Patricia Polacco stories with your class.
2. After reading a story, have the entire class discuss and respond to the following questions about the story.
 - Who are the characters?
 - What is the setting?
 - What is the problem?
 - What attempts were made to resolve the problem?
 - What was the resolution?

Draw and write a response to each question on a Post-It® note and place it on the *Story Structure* chart (p. 5-24) in the corresponding space. Continue this procedure with each story. As you begin to see similarities and differences that arise in each book, discuss them with the class. For example, in *The Keeping Quilt* and *When Lightning Comes In A Jar*, Patricia learns the stories and traditions of her ancestors from the older members of her family, such as grandparents, aunts, and uncles. Ask the class to begin to identify different ways that Patricia’s family members are helpful to one another. Responses may include: “In *Thunder Cake*, Grandma helps Patricia overcome her fear of thunderstorms.” “In *The Bee Tree*, Grandpa helps Mary Ellen understand reading is important.” Next, ask the class to discuss, “How is your family helpful to one another?”

Note: While working on the *Story Structure* chart, explicitly explain to your class that narrative stories usually follow the pattern they are noticing in each of these family stories. Patterns are often found in words and stories just like patterns are found in math. Ask the class to look for patterns in the words and stories they read at home and at school.

Family Traditions Survey

Explain to the students that Patricia had some family traditions that were important to her. For example, the family reunion she went to each summer. Tell the students that you are going to be sending home a *Family Traditions Survey* (p. 5-25). Ask your students to have their parents help them answer the questions on the paper and return it to school so we can talk about our own family traditions. (You may wish to send the survey page home earlier so you already have the student responses to the questions at this time.) What are some family traditions you have? Why are these traditions important to your family? Allow the students to share their responses with a partner or in small groups so there is opportunity for more students to contribute to the conversation.

My Family Traditions Book

Next, tell the students they are going to make a book and record some of their favorite family traditions in it. It is suggested you make a four-page layered book as shown. Layer one is the cover of the book and should have the name of the book and the author. For example, *My Family Traditions* by Johnny Smith. Layer two may describe a favorite family meal. Layer three may describe a favorite family book or story. Layer four may describe a favorite family vacation. Students may illustrate each page and label the picture, or write a complete sentence to match the picture for each page. The format is versatile, so students may choose to record different family traditions than those listed above. Remind the students to use the ideas they shared on the *Family Traditions* survey to help them give responses for each book page. This project may take as long as a week to complete. Allow time for students to read their completed books with each other.

My Family Traditions

by _____

*My favorite book is
"Over In The Garden."*

*My family likes
ice cream.*

*I take trips with my
cousins in the summer.*

Possible Extensions/Adaptations/Integration

The following activities have been included with this lesson plan to help provide students with a variety of ways to practice as they develop their understanding of narrative stories. These activities allow students to respond to books and stories through retellings. Retellings can improve students' comprehension as they engage in remembering the structure and content of the text. As students select information from a text that is worth remembering, retellings help focus selective attention on relevant information. When students make connections to the text from their own lives they are able to generate meaning from the text in a personal way.

These tools can be used with a whole class, small groups, and even in centers as student partners discuss the elements of a given story.

- *Story Structure Cards* (p. 5-26).

- *Story Structure Spinner* (p. 5-31).
- *Story Structure Cube* (p. 5-32).
- *Story Structure Glove* (p. 5-33).
- *Story Star* (p. 5-34).

Assessment Suggestions

The *My Family Traditions* book may be dated and kept in a student's portfolio. By looking at this work sample the teacher and family can identify what traditions are most meaningful to the child and strengthen family relationships. Also, it is an excellent record of the student's writing ability.

Additional Resources

Books

The Keeping Quilt, by Patricia Polacco; ISBN 0689844476

The Bee Tree, by Patricia Polacco; ISBN 0698116968

Thunder Cake, by Patricia Polacco; ISBN 0698115813

When Lightning Comes In a Jar, by Patricia Polacco;
ISBN 0399231641

My Ol' Man, by Patricia Polacco; ISBN 039928225

My Rotten Headheaded Older Brother, by Patricia Polacco;
ISBN 0689820364

Some Birthday!, by Patricia Polacco; ISBN 0671871706

Chrysanthemum, by Kevin Henkes; ISBN 0440848121

Owen, by Kevin Henkes; ISBN 0688114490

Julius: The Baby Of The World, by Kevin Henkes; ISBN 0440844436

A Weekend With Wendell, by Kevin Henkes; ISBN 06880635X

Wemberly Worried, by Kevin Henkes; ISBN 0688170277

Just Me And My Mom, by Mercer Mayer; ISBN 030712584X

Just Me And My Dad, by Mercer Mayer; ISBN 0307118398

The New Baby, by Mercer Mayer; ISBN 0307119424

Just Grandma and Me, by Mercer Mayer; ISBN 0307118932

Web site

<http://www.patriciapolacco.com>

Note: Other options for an author study may include Kevin Henke or Mercer Mayer. Both have written and illustrated a number of books about family relationships.

Family Connections

- A parent, or other family member, and the student may complete the *Family Traditions* survey at home. It should generate rich conversation of special family memories. The survey should be returned to school to be used with a class writing project.
- Give your child the opportunity to create his/her own scrapbook of family memories. Allow him/her to use extra family photographs, magazine cutouts, stickers, stencils, marking pens, colored pencils, colored paper, glue sticks, scissors, etc. Encourage your child to not only put pictures on the pages of his/her book, but also write about what is happening in each picture. Remember the book should represent your child's ideas and work. It should be an ongoing process so your child may enjoy adding further pages to the book after special family events. Your child will also enjoy reading and rereading the book with you often. It should not be a parent project that looks like it was just completed at a professional scrapbook class.
- Create a few family mottos. Brainstorm your own, or look for different sayings that encourage family members to develop unity, strength, care, acceptance, and appreciation for one another. Write the sayings on paper and decorate. Tape the mottos on bedroom walls, bathroom mirrors, and the refrigerator so they will be seen and read often and put to memory.

Names _____

Story Structure

	Characters	Setting	Problem	Attempts	Resolution

Name: _____ Date: _____

Family Traditions Survey

Dear Family:

During the next few weeks we will be discussing how each of us grow and change through our relationships with our families. We will talk about how family activities and traditions strengthen our relationships with each other. **Please help your child fill out the following family survey and return it to school by_____.** By completing this short survey we can have actual examples for each child to share with the class. This will make our class discussions much more meaningful.

1. Please describe your favorite place to go as a family. For example; “We go for a drive up the canyon to go hiking.” or “We go on vacation to the lake.”
2. What is your family’s favorite meal? The meal may be traditional for holidays, birthdays, or other special occasions. For example, “We make clam chowder on Christmas Eve.” or “On my birthday I get to choose Mexican food.”
3. What is a favorite book your family likes to read together? Why is it a book your family enjoys?
4. Please describe two family traditions. They may include holidays, vacations, birthdays, or other celebrations. For example, “On Sunday nights we always pop popcorn.” or “We visit my grandma on Saturdays.”

Thank you for taking the time and effort to help your child complete this survey.

Sincerely,

Story Structure Cards



Character





Setting





Problem





Attempt

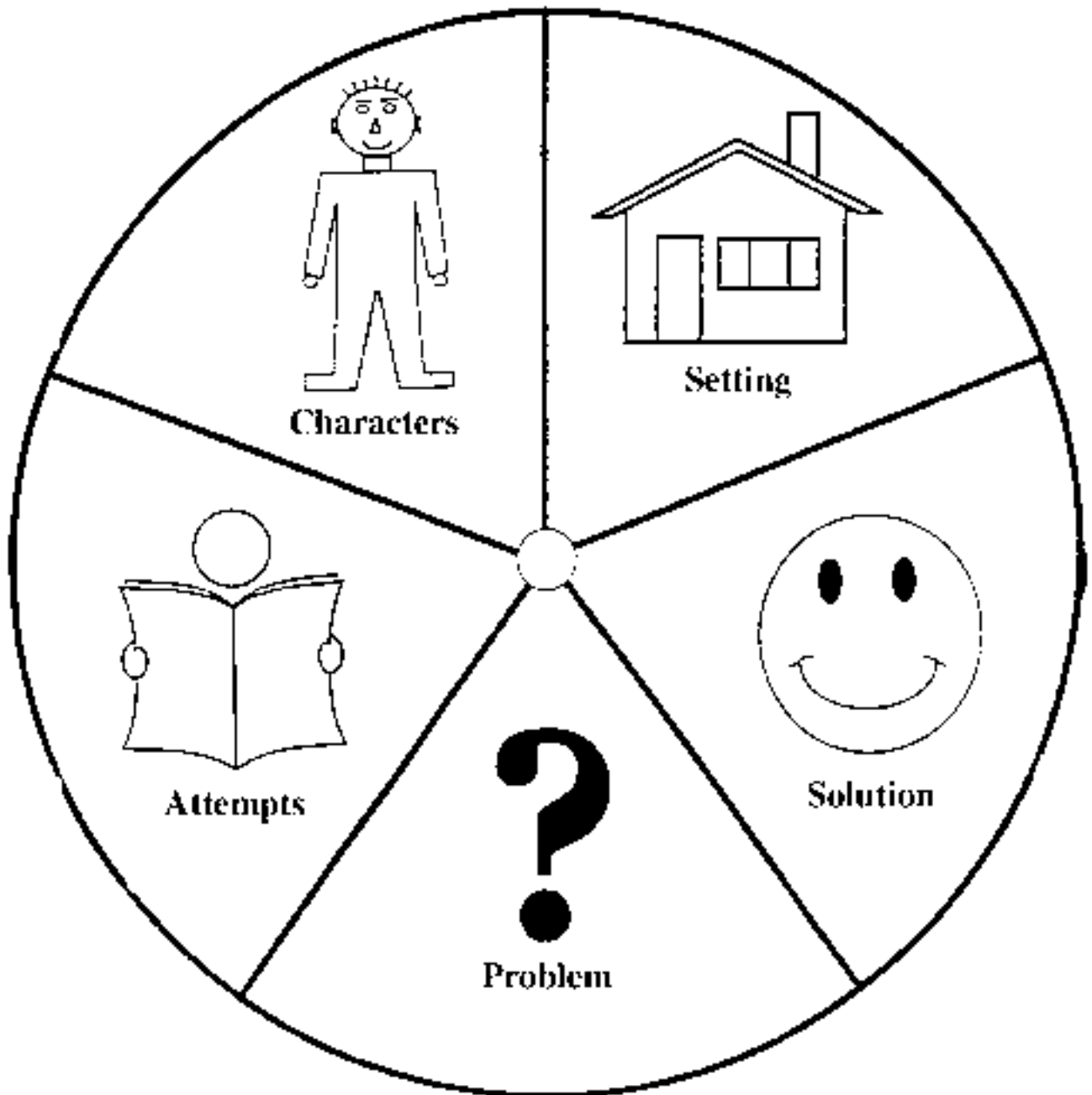




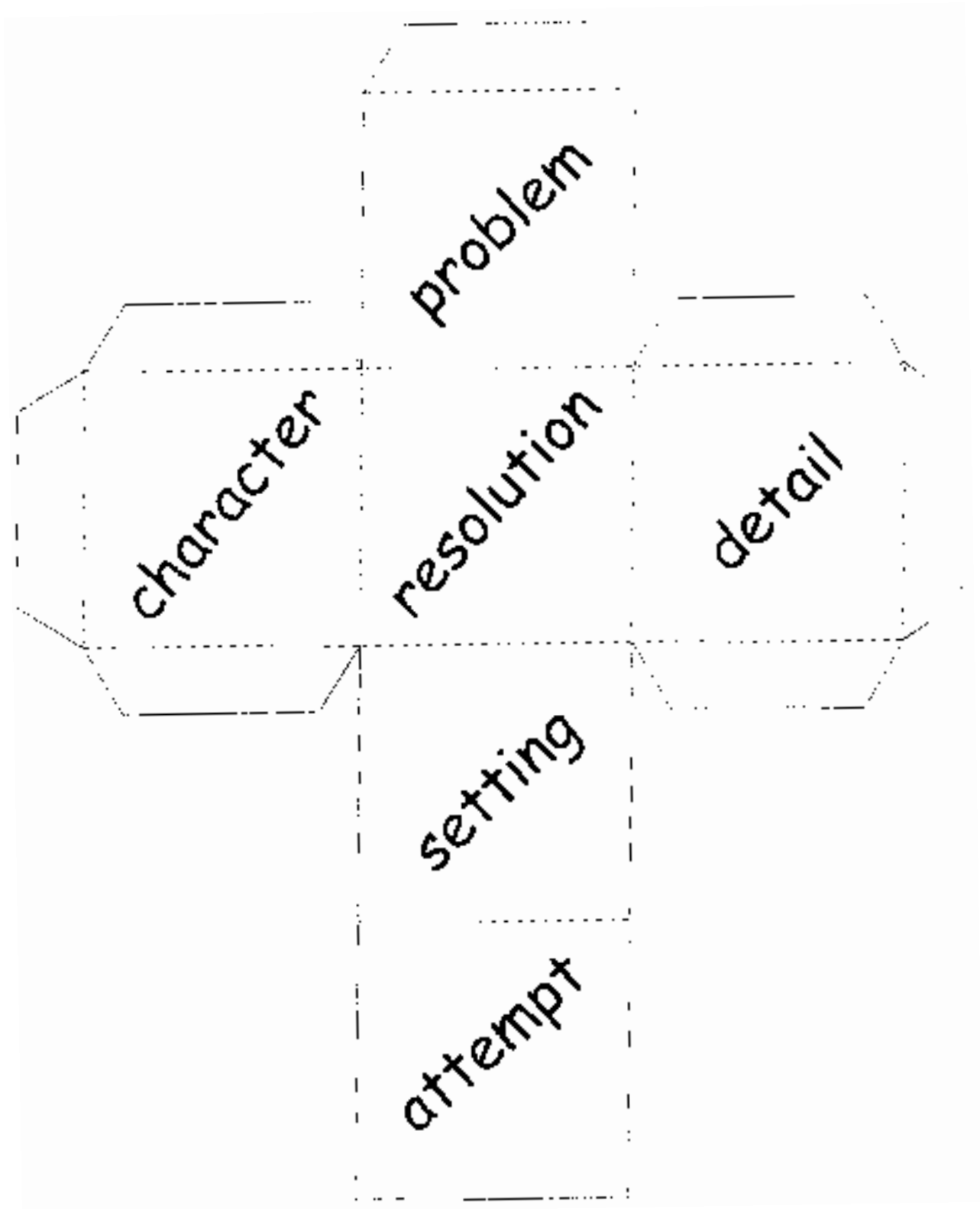
Resolution



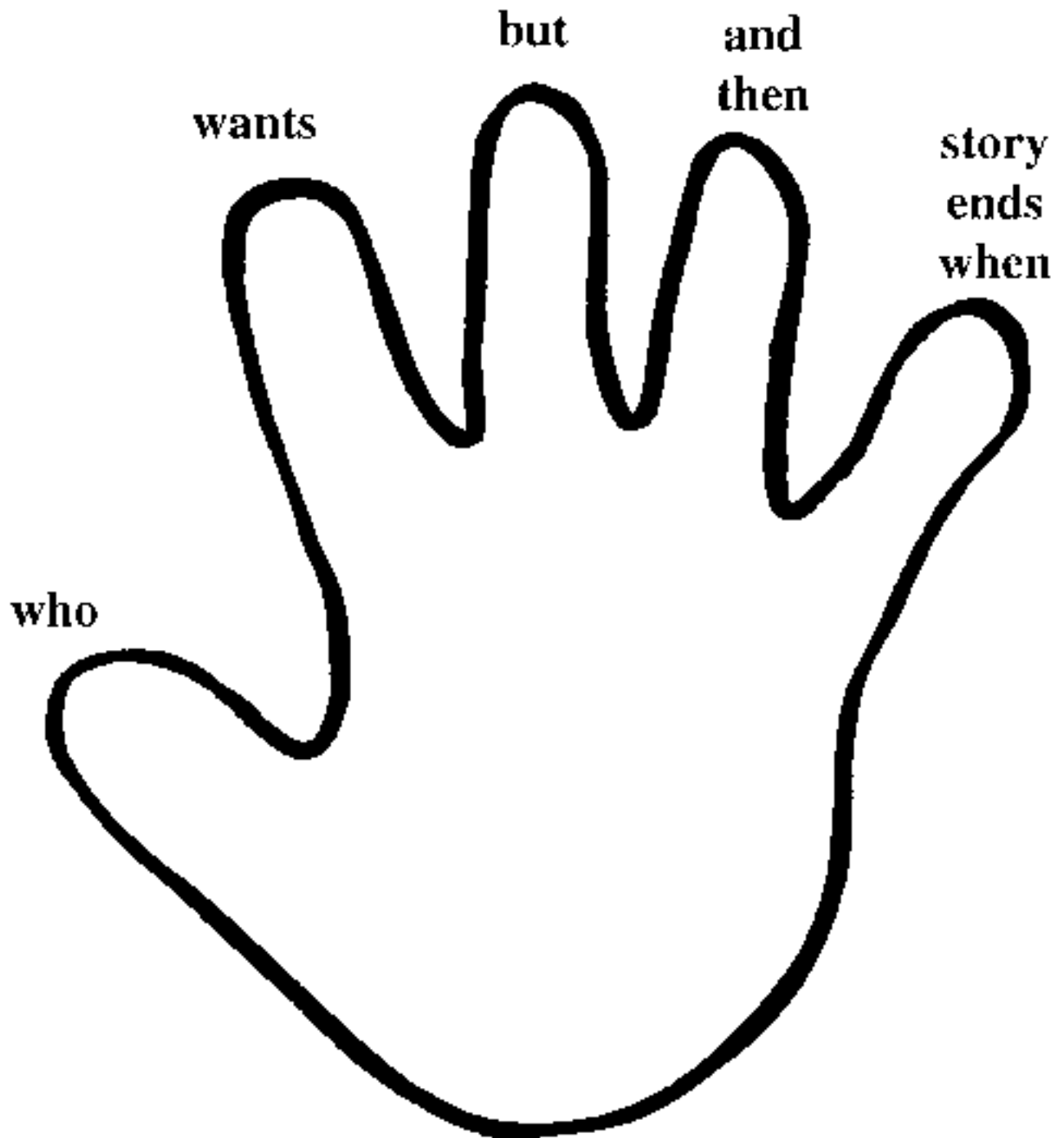
Story Structure Spinner



Story Structure Cube



Story Structure Glove



Story Star

1. _____

2. _____

Title of Book

3. _____

4. _____

5. _____

Directions:

1. Use one word to tell how the story made you feel.
2. Use two words to make up a new title for the story.
3. Name three important characters who were in the story.
4. Using four words, tell where the story took place.
5. Use five words to tell how the story ended.

ABC Community Walk

Content Standard II:

Students will develop a sense of self in relation to families and community.

Objective 2:

Identify important aspects of community and culture that strengthen relationships.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts I, II, III, VI, VII; Math II, III

Content Standard II

Objective 2

Connections

Background Information

The enduring understanding for Standard II is for students to be able to discuss, “What is the relationship?” In this activity students identify the different relationships that can be found in a community. Therefore, students need to understand the meaning of the word community. Community may be defined by the place we live and the people living or working together in that same area. There can be many different kinds of communities such as a family community, neighborhood community, school community, workplace community, church/religious community, and city community. Students should understand they are a part of these different communities and they receive strength, or help, from members of a given community. For example: police officers help us keep our city safe; custodians help us keep our schools clean; teachers help us learn to read, etc. In turn, students need to recognize they can make positive contributions to their community by the choices they make. For example: a child may choose to follow the school rules; a child may choose to throw away their trash when they are at the park; a child may choose to visit an elderly neighbor who is lonely, etc.

Invitation to Learn

Ask the class, “What is a community? Give me as many examples as you can of the different kinds of communities you know.” Encourage students to generate the ideas given in the background information (e.g., they are a part of a family community or school community). Create a simple definition of community as a class to use throughout this thematic study. For example, “A community is the place where we live.” This definition may be modified as the students progress in their understanding of the concept of community. Continue the discussion by

asking, “How do the people, places, or things in a community help you? What are some ways that you can help your community?” For the next few days our class will be exploring our community. By the end of our study we will be able to answer these questions in many different ways.

Instructional Procedures

1. Walking Field Trip

Three or four different times, the teacher will take the class on a walking field trip to different parts of the community. The teacher will need to determine safe and accessible places for students to make observations about the community. The places will vary greatly depending on where your school is located. Some suggestions include, take a walk around the inside of the school, take a walk around the outside of the school, take a walk around a nearby park, take a walk around the block of the school. If possible, choose a variety of locations to show the students the diversity of their community. The “field trip” will last approximately 20 to 30 minutes each day.

2. Record Your Findings

While the class is in these different areas, instruct students to look for, and identify, important people, places, and things that are a part of the community you have selected to observe. Each child should be given a clipboard, *Alphabet Chart* (p. 5-40), and pencil to use during the walk. Students should record by drawing and/or writing their observations on the *Alphabet Chart*. For example, when a student sees a flag they draw a flag, or write “flag” in the “Ff” box of the chart. Students should be reminded to look for and record what is important; it is not necessary to write down every rock or weed they see. Students should be encouraged to write a word phonetically on their chart and not worry about correct spelling at this point. However, the teacher may take a small whiteboard, dry erase pen, and eraser to write very difficult words. The students may copy the teacher’s model onto their paper. Students may be recording different observations. There will be a time for sharing when the students return to the class. Also, students should try to find as many things as they can to represent the different letters of the alphabet. For example, in the “Pp” box, students may write “park, playground, and police officer.” Furthermore, students should try to find an item for each letter of the alphabet. This will be challenging for some of the letters and may require the teacher’s help. For example, as a class you may decide to record “X-walk or eXit” for the letter X.

Materials

One per group:

- ☐ Large *Alphabet Chart*
- ☐ Vis-à-Vis® pen
- ☐ Disposable or digital camera
- ☐ Pages to create a class *ABC Community* book

One per student:

- ☐ Small *Alphabet Chart*
- ☐ Pencil and crayons
- ☐ Clipboard

3. Share and Discuss Your Findings

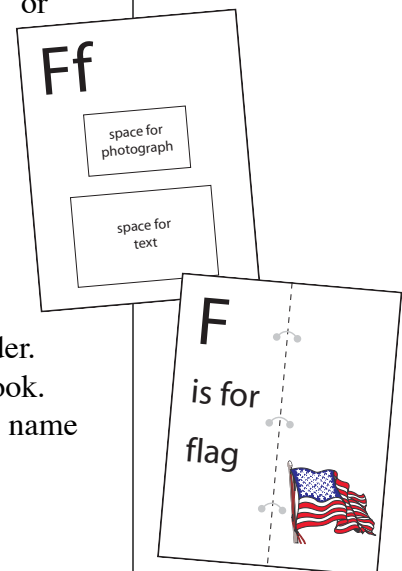
When the field trip is completed, return to the class and have the students share some of the most important and interesting people, places, or things they saw. Using a Vis-à-Vis® pen, keep a class record of the observations on an enlarged and laminated *Alphabet Chart*. This is when the teacher can model correct spelling of the words written on the chart. Repeat this procedure after each field trip. Notice the letters of the alphabet that do not have any words recorded by them. Encourage students to see if they can find items that begin with that letter the next time they are making observations.

4. Take Photographs for a Class *ABC Community Book*

After all the field trip observations have been recorded, assign each child one letter of the alphabet. Tell them that they will be creating a page in a class alphabet book for that letter. Allow the student to determine which word from the class alphabet chart s/he would like to use in the book. Next, using a disposable or digital camera, allow each child to return to the place where they saw the item on the field trip and take a photograph of it for the class book. If you are using a digital camera, it is suggested you print the photograph in black and white on 8 1/2 in. x 11 in. paper. If you are using a disposable camera have the film developed in color on 4 in. x 6 in. prints.

5. Write the Text and Bind the Class *ABC Community Book*

Next, the photographs can be mounted on paper and the child may write a one word label or a sentence to describe the photograph. For example, “Pp Police Officer,” “Pp is for Police Officer,” or “Police Officers help keep our city safe.” This is a published book, meaning a book that is intended for others to read. Students need to make sure their spelling is correct and their writing is neat and legible. The teacher may allow each child to practice his/her writing on a rough draft page before writing on the final copy page. It is suggested that the pages be 8 1/2 in. x 11 in. printed on heavy index or cardstock paper. The pages may then be placed in plastic sheet covers and placed in a three-ring binder. As an entire class, brainstorm and design the cover of the book. You may want to include a table of contents with the child’s name by the corresponding letter of the alphabet, showing the contribution s/he made to the book.

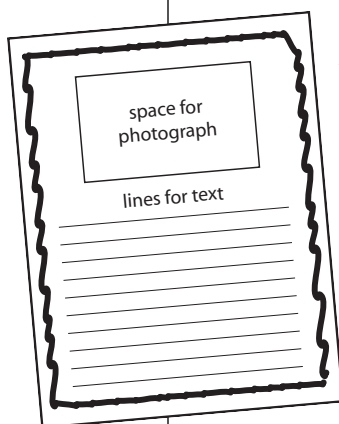


6. Read and Discuss the Class *ABC Community* Book

Finally, take the time to read the *ABC Community* book together as a class. Discuss why each item chosen for the book is important to the community. This is also a good time to teach the class that alphabet books are pattern books. There is a pattern to the letters of the alphabet just like there are patterns in numbers. Additional connections to math that may be seen in the photographs are the shapes and patterns in our environment. For example, bricks, windows, and doors can be rectangle shapes. Tiles, windows, and bricks may also have a pattern.

Possible Extensions/Adaptations/Integration

Field Trip Photography



When you go on a field trip, take a disposable camera. Allow each student to take one photograph of something that is of special interest to him/her. As each child takes his/her photograph, list the child's name and a description of the picture s/he took on a piece of paper. This will make it easier to give the correct photograph to the person who took the picture. After the film is developed, mount the picture at the top of the paper. At the bottom of the paper, provide space for the student to write about his/her photograph. Give students time to show their photographs and read their captions to each other. This makes a great bulletin board display and is a good record of a field trip for a student's portfolio.

Assessment Suggestions

After the class *ABC Community* book is completed ask the child to look through the book and choose two or three pages that show aspects of the community that are important to him/her. Have the student verbally explain how or why these people, places, or things help the community. Ask the child to explain if s/he has had any personal connections to the items s/he selected. The student should be able to express in complete sentences a clear description of how or why the items s/he has chosen are important to the community.

The student may say something like, "My mom takes me to the park in our city. I like to play on the playground." or "I have seen the police officer drive by my house. He keeps our city safe." The teacher may record the child's response and place it in the child's progress file.

Additional Resources

City Seen From A To Z, by Rachel Isadora; ISBN 0440846439

Alphabet City, by Stephen T. Johnson; ISBN 0670856312

A Is For Arches: A Utah Alphabet, by Becky Hall; ISBN 1585360961

Museum ABC, by The Metropolitan Museum Of Art;
ISBN 0316071706

Family Connections

- Give each child a copy of the *Alphabet Chart* to take home. Ask each child to go on a walk around his/her neighborhood with a family member. Try to find as many people, places, or things as s/he can to match each letter of the alphabet. For example, “A is for apple tree. B is for boys. C is for car. D is for dog.” Draw or write the word to represent the important items in your neighborhood on the *Alphabet Chart*.
- While you are driving, encourage your child to find as many different letters of the alphabet as they can from the billboards and road signs you pass. To add a little bit more of a challenge, give your child a notebook and pencil. Have him/her write the letters s/he sees and count to find out how many of each letter s/he found. Students may also like to read billboards and road signs to you.
- Go to the local library together. Find books about different kinds of communities (e.g., school and city communities). Read them together. Discuss the different resources that help us in our community.

Alphabet Chart

Aa	Bb	Cc	Dd	Ee
Ff	Gg	Hh	Ii	Jj
Kk	Ll	Mm	Nn	Oo
Pp	Qq	Rr	Ss	Tt
Uu	Vv	Ww	Xx	Yy Zz

***Math
Standards II and III
Activities***

Patterns and Shapes in Our Community

Math Standard III:

Students will identify and create simple geometric shapes and describe spatial relationships.

Objective 1:

Identify and create simple geometric shapes.

Objective 2:

Describe simple spatial relationships.

Intended Learning Outcomes:

5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Content II-2, III-3; Math II; Language Arts I, VI

Math Standard III

Objectives 1 & 2

Connections

Background Information

This lesson uses the class *Alphabet Book* created in *ABC Community Walk* (p. 5-35). It may also be completed as an independent activity. In this lesson students will look at, and replicate, work by the artist Paul Klee. The following information may be shared during class discussions about this artist. It is recommended that students be exposed to a variety of Paul Klee works of art over a period of time. They can become familiar with his art style during a brief class discussion.

Paul Klee was born in Switzerland in 1879. He liked writing poetry and music as much as painting. He decided to focus on painting and studied in Munich, Germany. He observed the world around him to inspire his paintings. With his pencil and brush, and even his camera, Klee studied the varied shapes, lines, and colors of things around him, including plants, animals, and people. In his pictures, he wanted to express more than we see with our eyes. Therefore, looking at his pictures we can see forms of actual things often surrounded by more abstract colors, lines, and objects that may represent emotions, movement, and even sound. He felt close to nature and carefully studied the natural things around him. He encouraged his own students to look beyond what the eye or camera sees to find new and exciting worlds. He loved colors and most of his paintings are filled with beautiful colors.

The artist Wassily Kandinsky is another artist you may want to study. He also does a lot of paintings using geometric shapes.

This lesson uses the environment as a source of shape identification. It is beneficial for students to have previous exposure to the four basic shapes (square, circle, rectangle, and triangle) and their names. Students will practice finding shapes, therefore it is beneficial to have clear blackline examples of each of the shapes to refer to.

Invitation to Learn

Following the completion of the class *ABC Community* book, carefully review the photographs that have been taken. Ask the students, “Do you notice shapes and patterns in the photographs?” Look specifically for patterns and shapes. As students begin to identify items in the photographs, direct the conversation towards the patterns or shapes that may be found in the various photographs. Tell the students they will look closely at the things around them, as well as in books, to find shapes.

Instructional Procedures

Materials

- ☐ Prints of artist Paul Klee
- ☐ Class *ABC Community* book (made in previous lesson)
- ☐ *Round Is A Mooncake*
- ☐ *Shapes At Home*
- ☐ *Patterns All Around Me*
- ☐ *Patterns*
- ☐ Black construction paper 6 in. x 6 in.
- ☐ Foam shapes
- ☐ Elmer’s glue
- ☐ Foam shape picture teacher created samples

1. Read *Round Is A Mooncake* and/or *Shapes At Home*. As you read, notice how shapes can be found all around in our world. Point out that the character visits many different places in her neighborhood and home to find shapes. Ask the students to look around the classroom to find a variety of shapes. Share those ideas together.
2. Read *Patterns* and/or *Patterns All Around*. Ask the students to look around the classroom again to find any apparent patterns.
3. Look at the *ABC Community* book created as a class. Identify several shapes and patterns you see when looking at specific photographs. If you are unable to take photographs of your own community, you may use books that show shapes in the environment, such as *City Shapes* by Welcome Books (Scholastic).
4. Compare the photos in the class *ABC Community* book to some of the Paul Klee paintings previously introduced. Notice how he used shapes to create buildings, animals, and landscapes. Remind students of your previous discussions about how artists look very closely at the things around them to determine their shape and unique features. Compare the types of shapes he uses in his artwork to the shapes you found in the photos you have taken. Point out that buildings are often rectangle shapes combined with triangle shapes to form the roof, or that cars can be rectangles with circles for wheels. Also, notice any color or shape patterns in the artwork or photos.
5. Ask the students to think of a picture they could create using shapes. Encourage them to think of how they could combine circles, squares, rectangles, and triangles to create a house, animal, building, car, etc. Introduce the foam shapes. Explain to

students that they are going to use the shapes to create a picture like the artist Paul Klee of something in their community. Show them samples you have created previously using the foam shapes.

6. Create shape pictures. Give the students the black construction paper and foam shapes. Allow them time to create their own shape picture. Encourage students to create things they might have seen during their community walk, such as the school, playground, cars, trees, people, etc. After the students have created their picture, make sure they leave the shapes on the black paper during the gluing process. Using Elmer's glue, affix each shape one at a time to the black paper. Allow the picture to dry. During this process students need to be aware of spatial relationships. They need to work to organize their shapes on the paper in order to show items next to, above, below, on, over, or beside.
7. Name the picture. Have the students create a title for their picture. Create a label with the child's name and picture name on it for display. Share the pictures with each other as a class. As students share their artwork, ask them to point out and name the variety of shapes they used to create items in their picture. Take time to assess student's knowledge of spatial relations by asking him/her to identify the locations of various items in the picture. Students can respond in complete sentences. For example, "I made a tree using a rectangle and a circle. I used a square and a triangle to make a house. The tree is next to the house at the bottom of the hill."

Possible Extensions/Adaptations/Integration

- *Shared poems:* Use the class *ABC Community* book or the Paul Klee replication pictures as an inspiration for a class poem. Choose something you saw on your class walk to write about or write about the experience itself. You may want to choose one of the following formats:

Lanterns-

- line 1 – one syllable
- line 2 – two syllables
- line 3 – three syllables
- line 4 – four syllables
- line 5 – one syllable

Example:

sky
so blue
many clouds
above the earth
now

Parts of Speech Poems

line 1 – one article (a, an, the) + one noun
line 2 – one adjective + one conjunction + one adjective
line 3 – one verb + one conjunction + one verb
line 4 – one adverb
line 5 – one noun (relating to the noun in the first line)

Example:

The cliff,
sharp and rocky,
juts and looms
above.
Wall.

Stair Poems

step 1 – the topic or main idea (usually one word)
step 2 – three adjectives describing the topic
step 3 – a place or time connected with the topic
step 4 – a summarization of the topic or a phrase that means the same as the topic

Example:

Winter
snow, cold, ice
all dressed in white
January

(From *Poetry Party* by Linda Spellman.)

- *Construction paper art:* Use construction paper to create a replica of a familiar building. Take a photograph of a favorite place such as McDonald's, Pizza Hut, or other local restaurant. Have students refer to the photograph as they use construction paper to replicate the specific shapes, colors and patterns of the building. Students may work in groups to create large (2 ft. x 3 ft.) construction paper art projects, or work alone on a smaller (8 1/2 in. x 11 in.) project. This is also a great way to assess student's spatial relations perceptions. Students need to look at a photograph, cut construction paper in the same shape but in a larger proportion, and organize the shape in the correct format on the paper. This is a difficult skill for some students.
- *Folded shape books:* After completing a community walk or reading several pattern and shape books, students can create their own books that illustrate pictures of shapes in their environment. Using the *Shape Books* handouts (p. 6-10), fold the books so that students are able to write their name on the front cover and use the following three 1/4 sheet pages to illustrate three different places they notice the shape in their environment. For example, the student may draw the classroom door, a poster in the classroom, and a table in the classroom to demonstrate knowledge of how to locate a rectangle in the environment.

Assessment Suggestions

Assessment should be ongoing during this activity through class discussions and teacher observation of student work.

As students share their artwork with the class, notice and record which students are able to readily identify the four basic shapes in their picture. Ask students to explain to the class how they chose the name of their picture and how they used shapes to create a portion of their picture. Check student's spatial relation knowledge by asking him/her to describe his/her picture using terms listed in the math Core Curriculum (e.g., on, over, under, above, below, top, up, down, in front of, behind, next to, beside, etc.).

You may also want to complete the *Folded Shape Books* listed above as a part of the assessment. Watch carefully as the students create their books to make sure they are properly identifying the specific shape focused on in the book. You may want to have the students share with the class to reinforce the names of the shapes, as well as show a variety of places shapes can be found in the environment. A class tally of the different types of items (doors, wheels, windows, etc.) could be kept in order to point out diversity of the items. Encourage students to find unusual items, but remind them to make sure the shape identified is

correct.

Additional Resources

City Shapes series (*Circles, Ovals, Rectangles, Squares, Stars, and Triangles*), by various authors (Welcome Books Collection, Scholastic); Item NTS944790

What's Round?, by Barbara Shook Hazen (Newbridge); ISBN 9781567849141

Squares Everywhere, by Brenda Parkes (Newbridge); ISBN 9781567849035

I See Shapes, by Marcia Fries (CTP); ISBN 1574710974

I See Patterns, by Linda Benton (CTP); ISBN 0916119971

Lots And Lots Of Zebra Stripes: Patterns In Nature, by Stephen R. Swinburne; ISBN 1563979802

Patterns Everywhere, by Kari Jenson Gold (Newbridge); ISBN 156784331X

Patterns All Around, by Margie Burton (Benchmark); ISBN 1892393336

Patterns, by Brenda Parkes (Newbridge); ISBN 9781567849080

Metro Readers (Circles, Rectangles, Squares, Triangles), by various authors (Metropolitan Teaching and Learning, Inc., www.metrotlc.com); ISBN 1581203462 (*Circles*), 1581203454 (*Rectangles*), 1581203438 (*Squares*), and 1581203446 (*Triangles*)

Shelter, by Susan Canizares and Daniel Moreton; ISBN 0439045509

Building Shapes, by Susan Canizares and Samantha Berger; ISBN 9780439045851

Buildings, by Betsey Chesson and Pamela Chanko; ISBN 0439045843

The Shape of Things, by Dayle Ann Dodds; ISBN 0613000560

When A Line Bends . . . A Shape Begins, by Rhonda Gowler Greene; ISBN 0590642057

Getting to Know the World's Greatest Artists: Paul Klee, by Mike Venezia; ISBN 0-516-42294-4

Round Is A Mooncake, by Roseanne Thong; ISBN 0811826767

Poetry Party, by Linda Spellman; ISBN 0881600385

Family Connections

Neighborhood Shape Walk

As a family, go on a walk around your neighborhood or in different rooms in your house. Keep a list, organized by type of shape, of the items you find. See how many different items you can find of each shape. Notice which shapes are more apparent and which are harder to find.

Shape Books

Squares

Name _____

Triangles

Name _____

Circles

Name _____

Rectangles

Name _____

Community Map

Math Standard III

Objective 2

Connections

Math Standard III:

Students will identify and create simple geometric shapes and describe spatial relationships.

Objective 2:

Describe simple spatial relationships.

Intended Learning Outcomes:

5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Content II-2, III-3; Math I-1, 3

Background Information:

This activity focuses on helping students understand the location of their physical community and the relationship they have with the community and the neighborhood. Therefore, student participation in the previous lessons: *ABC Community Walk* (p. 5-35) and *Patterns And Shapes In Our Community* (p. 6-3) is beneficial preparation for this lesson. Based on these lessons, students already have an understanding of a community and neighborhood. This activity is best done in the context of a class study of the school and surrounding community.

Students will review, reinforce, and apply their knowledge of number recognition, counting to ten, and spatial relationships. Prior exposure to these math concepts will further the students' feelings of success.

Invitation to Learn:

Following an introduction to the students' school, community, and neighborhood through several class walks around the school and local environment, show the students a professionally created map of the area (can be found in the phone book or on the Internet). Ask the students to comment on what they are viewing and what they know about maps. You may also want to show a variety of maps (topographical map, street map, surveyor's map, etc.) that show different uses of maps and techniques of map making. Discuss with the students why we need maps and how we can use them. For example, we use maps to help us find how to get to a new city; we use maps to help us find a store in a mall; or we use maps to help us find a friend's house.

On the map of the area, point out where to find the school and other important buildings in the area. Show other familiar areas (e.g., the park, local swimming pool, or the areas you saw together on a class walk).

Continue the discussion of why maps are used and how they can show us where our community/neighborhood is located. Tell students we are going to create our own map to help us identify the spatial relationships (where things are in relation to other things) between important locations in our community.

Instructional Procedures

1. Show students the photographs of various important buildings/areas in the surrounding neighborhood (student drawings, student construction paper art pictures, or photographs from previous lessons may be used). Discuss how we can see these buildings when we look outside of our school or drive down the street. Identify each with a specific name for reference. For example, the fire station, the bank, the grocery store, etc.
2. Call attention to the grid you will be using to represent the map. Explain how the map has been divided into sections we call blocks (relate this term to the students' schema of "walking a block," or "my friend's house is a block from mine," etc.). Show the students where a city block is located on the published map. Tell them this grid will be used as a map of our neighborhood for us to identify where we (the school building) are located in relation to other areas in our community.
3. Place the photo of the school on the grid where two lines intersect. You may want to place the school in the center portion of the grid to act as the focal point. Place another photo on the grid (e.g., the public library). Ask the students how we might get from the school to the public library. Show the students a variety of pathways that could be taken to get from one place to the other. During this time the teacher should be interjecting specific vocabulary words (these should be taken directly from the Math Core Standard III, Objective 2, which include: on, over, under, above, below, top, up, down, in front of, behind, next to, beside, near, and far) that clearly show the students the spatial relations between the buildings. Introduction of "left" and "right" may also be appropriate. Explain to the students that when looking at a map we are viewing the ground from above. Therefore, terms such as up and down refer to directions in which to move rather than physically moving "up" off the ground.

Materials

- ☐ Map of area
- ☐ Large grid (graph mat or grid made from shower liner)—square is preferred
- ☐ Photographs of recognizable community landmarks (or student drawings)
- ☐ *A Trip Around Town*

4. Read *A Trip Around Town*. Point out the similarities of the map grid in the book and the class grid. Notice how the characters visited a variety of places in their town. They were able to show how they traveled from one place to another.
5. Continue placing photos on the grid and describing their location in relation to the school as they are placed on the grid. As each photograph is placed on the grid, discuss the building and how it (the people there) contributes to the community and how the students are affected by the surrounding community. Talk about how the grid is a small representation of the actual buildings and community. Explore different pathways that could be taken on the grid to get to and from the same locations. As students are talking about how to get from place to place, reinforce the use of correct vocabulary. For example students may say, “If I start at the school and walk two blocks up then three blocks to the right, I will be next to the fire station.” or “The McDonalds is above the grocery store and far away from the school.”
6. As the students become competent at finding a pathway from one location to another, introduce a way to record their verbalizations. Write down several student verbalizations using a specific recording scheme. For example, a student may say, “I started at the library and went two blocks up, one block over to the left, two blocks up, and arrived at the police station.” This could then be written on a chart in the following ways:
 - start: library U U L U U or
 - start: library 2 U, 1 L, 2 U end: police station.Practice with the students showing only the symbols and only giving a starting place. See if the students can follow the steps to arrive at the correct location.

Possible Extensions/Adaptations/Integration

Floor Grid

Prior to using pictures, students may need a more concrete way to identify and practice the spatial relations vocabulary. Tape a grid on the floor; place two students on the grid. One student moves to meet the other student, counting blocks (steps) and identifying direction as s/he moves. Class members can also assist in directing one student to the other.

Construction Paper Buildings

Have students use construction paper to create the community buildings for the map instead of using photographs. You may also allow the students to create their own community by making representations of buildings they would like to have in their community.

Center Grids

Create small grids on an 8 1/2 in. x 11 in. sheet of paper to use in a center. Write coordinates with accompanying icons for students to navigate through the map.

Partner Grids

Using small grids, students work with partners to describe directions for the partner to follow. One student places a small token (Unifix cube or counter) on the grid where two lines intersect. The other student gives a direction such as move two blocks up and three blocks over. The first student moves his/her token according to the instructions. Switch roles.

How Many Ways?

Using small (8 1/2 in. x 11 in.) student grids, students draw two buildings on the grid. Students try to find as many different pathways from one building to the other. Using a different color of crayon for each path the student draws a path from one location to the other. Students must stay on the grid lines. Students should also be expected to tell about their paths and may have the opportunity to record their information (idea adapted from *Navigating Through Geometry In Prekindergarten-Grade 2*, Carole E. Greenes (editor), a NCTM publication).

Three Dimensional Community

Read *Roxaboxen*. Allow students to create a three-dimensional community using boxes, cardboard, blocks, and construction paper. Again have students use spatial relation vocabulary to describe their location in the “town” to others. For example, “My building is close to Matthew’s but it is far away from Jessica’s.”

Near/Far Photos

Partner students and have them decide on an item they would both like to photograph. Both students will take a photo of the same object. However, have one student take a near picture while the other student takes a far picture. Print the pictures and share as a class book. Show the students the meaning of near and far. Have them identify the near/far photo for each pair of students.

Class Graph

Make a class graph of how you got to school (e.g., walk, ride, bus, bike, etc.). Have a class discussion of why students get to school in a variety of ways (e.g., those who live close to school may walk because the bus can't pick them up; while students who live farther away will ride the bus). Point out to the students that some students may consider their house near to the school while others may be far away.

Assessment Suggestions

- As you work together on the class grid, have each student come up individually and follow your oral or written instructions on how to get from one location to the other on the grid. Observe student ability to follow direction words such as up, down, over, under, etc. Is the student able to count the correct number of blocks on the grid?
- Give students an individual grid. Orally state a pathway for them to follow. They can demonstrate their understanding of direction words by correctly drawing the path on their grid.

Additional Resources

A Trip Around Town, by Amanda Boyd; ISBN 0-8239-8915-1

Mapping Penny's World, by Loreen Leedy; ISBN 0805072644

Roxaboxen, by Alice McLerran; ISBN 0590455893

And The Dish Ran Away With The Spoon, by Janet Stevens;
ISBN 0152022988

Me On The Map, by Joan Sweeney; ISBN 0590107054

Madlenka, by Peter Sis; ISBN 0-374-39969-7

Family Connections

- Go on a walk together and notice the important landmarks on your street and surrounding area. Return home and make a map of your neighborhood. Indicate on the map which direction you walked.
- As you drive to and from different locations, notice and record how long it takes to get to a variety of places. Discuss why some places take longer to drive to (they are farther away). Look at a phone book map together and identify the locations. Notice whether you are moving to the right/left or up/down on the map.

Nursery Rhyme Rewrites

Math Standard

II

Objective

2

Connections

Math Standard II:

Students will identify and use patterns to represent mathematical situations.

Objective 2:

Identify and use patterns to describe numbers or objects.

Intended Learning Outcomes:

2. Develop social skills and ethical responsibility
3. Demonstrate responsible emotional and cognitive behaviors.
6. Communicate clearly in oral, artistic, written and nonverbal form.

Content Connections:

Math III-2; Content II-3; Language Arts I-1, II-2, III-1, V-1, 2, VI-1

Background Information

The goal for students in Content Standard II is that they develop a sense of self in relation to families and community. As students form relationships with their family and with one another, they draw upon common experiences to strengthen those relationships. One common bond that can strengthen relationships in the family and at school is literature. Traditional forms of literature that we can share are nursery rhymes and folk tales. Nursery rhymes are lyrical passages that can be shared between members of a family. Usually a parent recites nursery rhymes to young children. By reciting nursery rhymes, oral traditions are passed down. Through this time spent together, bonds between a parent and a child can be strengthened. These important lessons help us build and strengthen the relationships in our families and community. Many students have experiences with these traditional literature forms at home. At school, we can expand their knowledge and build classroom relationships.

During this activity, the students will rewrite a classical nursery rhyme as a class. The students will have the opportunity to recite/read the nursery rhyme, discover the pattern of the text, and duplicate and extend that pattern to rewrite the nursery rhyme. As the rhymes are rewritten, the class will perform the original or rewritten version of the nursery rhyme.

Invitation to Learn

Begin chanting the nursery rhyme “Jack and Jill.” Invite the students who know the rhyme to join in. Ask the class if they have heard this nursery rhyme. What rhythm or beat pattern do they feel? Tell the students that during the next week the class will be reciting nursery rhymes and finding the pattern of the rhythm in the rhymes. The class will also have the opportunity to write its own nursery rhyme and perform it in the form of a puppet show.

Instructional Procedures

1. Read the “Jack and Jill” nursery rhyme to the class. You may write the nursery rhyme on chart paper and do a shared reading from the chart.
2. To identify the pattern of the nursery rhyme, the teacher generates a physical pattern such as snapping and clapping (AB pattern) as you recite the nursery rhyme. Ask the students to identify the pattern. Ask the students if anyone else has another idea of how to show the pattern. This may include clapping twice and slapping legs twice or touching shoulders and knees in an AABB pattern. Various patterns such as AAA or ABCB patterns may be used as extensions. The teacher may model each of these patterns and students will join in.
3. Provide the class with an assortment of Unifix cubes or colored paper squares. Each student can make the AB pattern with the materials. Recite the nursery rhyme as the student points to his/her Unifix cube/paper pattern. AABB or AAA patterns may also be constructed and the rhyme recited.
4. After the students are comfortable in identifying the pattern(s) they hear in the nursery rhyme, introduce the nursery rhyme rewriting chart. The original text of the nursery rhyme is written on the left side of the chart and the rewritten version of the nursery rhyme is on the right side. The class can produce their own version of the nursery rhyme “Jack and Jill” through a shared or interactive writing experience.
5. Ask the students to identify the characters in the nursery rhyme (e.g., substitute “Ann and Clark” for “Jack and Jill”). As a class, write the text on the rewriting chart.
6. Discuss the setting of the nursery rhyme. Jack and Jill went up the hill and Ann and Clark go to the park.

Materials

One per class:

- ☐ Various nursery rhyme books
- ☐ Nursery rhyme poster—Little Miss Muffet, Wee Willie Winkie, Humpty Dumpty, Jack and Jill, and Hickory Dickory Dock, or others of your choosing
- ☐ Nursery rhyme rewrite chart—Little Miss Muffet, Wee Willie Winkie, Humpty Dumpty, Jack and Jill, and Hickory Dickory Dock, or others of your choosing
- ☐ Set of Unifix cubes in various colors or colored paper squares
- ☐ Chart paper
- ☐ 8 x 11 inch art paper
- ☐ Markers, crayons, scissors

7. Create an alternative action for the nursery rhyme. Instead of getting a pail of water, Ann and Clark watch the keeper feed the shark.
8. Provide a different ending to the rhyme. Instead of Jack falling down and breaking his crown, Ann fell in and hurt her chin and Clark dived in to save her.
9. Compare the patterns of the original nursery rhyme with that of the rewritten version. You may use clapping and snapping motions or Unifix cubes, as in steps two and three, to check the patterns.
10. Provide each child with paper and crayons. Each student may create a character from the nursery rhyme. Affix the decorated and cut-out character to a drinking straw. This will be the puppet for the puppet show.
11. The class may recite the nursery rhyme while the student moves his/her puppet. Each student will demonstrate his/her knowledge of the spatial relationships in the nursery rhyme through the movement of the nursery rhyme character puppet.

Possible Extensions/Adaptations/Integration

Rewriting other nursery rhymes may be used as extensions for this activity. The same format that was used to rewrite “Jack and Jill” is followed for other nursery rhymes. As the students identify the character, setting, problem, and resolution for each nursery rhyme, they are practicing important skills from the language arts core curriculum. Students are also using skills that will strengthen phonological awareness and writing skills. Of course, the rhythm/beat pattern is always emphasized.

All students may participate in this activity. Because it is teacher directed, students with varying skills in mathematics and language arts will be successful.

Assessment Suggestions

By participating in the class recitation of the nursery rhyme(s) and through participation in the puppet show, a teacher can assess the students level of knowledge of rhythmic patterning and knowledge of spatial relationships. The teacher may assemble the rewritten nursery rhyme that the class composes in a book format. The original form of the nursery rhyme may also be included to compare and contrast the two versions. Each student can illustrate the pages of the rewritten nursery rhyme and the original version. This book may be included in the student's portfolio where it may be examined by the teacher and parents.

Additional Resources

Rhymes and Reasons: An annotated collection of Mother Goose Rhymes, by James C. Christensen; ISBN 0-86713-040-7

The Little Dog Laughed: And Other Nursery Rhymes from Mother Goose, by Lucy Cousins; ISBN 0-14-055469-6

Hey Diddle Diddle: And other Mother Goose Nursery Rhymes, by Tomie dePaola; ISBN 0-399-21589-1

Mary Had a Little Jam and Other Silly Rhymes, by Bruce Lansky; ISBN 0689033923

Family Connections

- The parent may read a variety of nursery rhymes with his/her child. Discuss the rhythm of the nursery rhymes. Use hand motions to emphasize various parts of the nursery rhymes.
- The parent and student can go for a walk around the neighborhood and look for various patterns on homes, sidewalks, fences, etc.

Content
Standard III
Activities

Seasons

Content Standard III:

Students will develop an understanding of their environment..

Objective 1:

Investigate changes in the seasons.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts VIII-2; Math V-1

Content Standard III

Objective 1

Connections

Background Information

There are four seasons: winter, spring, summer, and fall. Changes in weather occur from day to day and over seasons, affecting Earth, people, animals, and plants. Each season has different characteristics that makes it different, helping us identify each season.

Invitation to Learn

Ask the students a few of the following questions:

- What was the weather like yesterday?
- How did you know what to wear today?
- What time of year does it usually snow?
- What time of year do we have falling leaves?

Instructional Procedures

1. Explain to the class that they are all going to become season watchers to help us understand the seasons.
2. Read *Circle of Seasons*.
3. Before going outside, discuss what students are wearing today.
4. Give each student a Post-it® note to write his/her name on.
5. Have each student place his/her name on the graph in the appropriate place according to what s/he is wearing (p. 7-6).
6. Discuss the results of the graph.

Materials

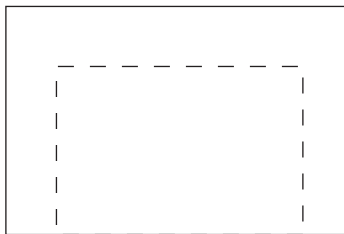
One per class

- ☐ Butcher paper 2' x 3' with graph titled *What Are You Wearing?*
- ☐ *Circle of Seasons* or any other book on seasons

For each student:

- ☐ 3" x 3" Post-it® note
- ☐ File folder
- ☐ Scissors
- ☐ Clipboard
- ☐ Plastic bag
- ☐ Glue stick
- ☐ Crayons
- ☐ Piece of white construction paper

7. Pass out a file folder to every child. Demonstrate how to cut a window.



8. Give each student a clipboard, glue stick, plastic bag, piece of white construction paper, and crayons.
9. Plan a season walk on a day that is typical of the current season. Invite the children to pick things that are typical of the season and place the different items in their bags (e.g., fall-colored leaves, sticks, summer-green leaves, grass, dandelions, etc.).
10. After several minutes of collecting, have the students sit in a place where they can observe either a tree or the mountains. Have students open up their folders to use as a frame and hold it up to “frame” the tree or mountain they are observing. Encourage students to observe how their “picture” looks at this time of year.
11. Place the white construction paper under the frame and clip the frame and paper to the clipboard. Have each student use crayons to draw the picture s/he is observing. When finished, have him/her decorate the folder frame with the items s/he collected and placed in his/her bag. Be sure each artist adds his/her name to his/her creation.

Possible Extensions/Adaptations/Integration

Language Arts

- Have the class work together to create an acrostic poem that goes with the name of the season. Hang the poem with the framed season artwork.

Acrostic poem

Write descriptive words or phrases beginning with the accompanying letter from the name of a season (i.e., spring, summer, autumn, winter).

For example: **F**alling leaves
 All over the ground
 Leaves of every color
 Lovely sight to see

- Take pictures of the same tree or area during different seasons. As a class, create text to describe the changes in the seasons.
- Make a class book entitled *What Happens in (name of season)*. Each student writes and fills in the sentence, “In (name of season) _____” on a separate piece of construction paper. Have students illustrate their sentence. Create a cover and bind all the pages together.

Assessment Suggestions

- Artwork is an excellent assessment tool. Date each art piece and place in the student’s portfolio. Encourage students to add details and observe changes in the environment carefully. Look for progress in the student’s ability to draw specific changes as the seasons change.

Additional Resources

Circle of Seasons, by Gerda Muller; ISBN 0525453946

Caps, Hats, Socks and Mittens, by Louise Border;
ISBN 0-590-72429-0

The Season’s of Arnold’s Apple Tree, by Gail Gibbons;
ISBN 0152712453

Animal Seasons, by Brian Wildsmith; ISBN 0192721755

See the Seasons, by Rozanne Lanczak Williams; ISBN 0153148454

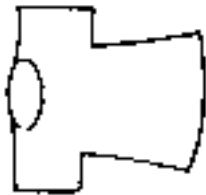

Family Connections

- Encourage students to observe the changes in the seasons in their backyard. Have them bring signs of the season you are studying to put on the Discovery Table set up in the classroom. Leaves, flowers, acorns, blossoms, pumpkins, etc. may all be part of the table. Include magnifying glasses for closer observations.
- Send the class book *What Happens in Seasons* home each night for a different student to read with his/her family.

Name _____

What are you wearing?

Write the date and weather.

Five Senses and Four Seasons Quilt

Content Standard III:

Students will develop an understanding of their environment.

Objective 1:

Investigate changes in the seasons.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility
5. Understand and use basic concepts and skills.

Content Connections:

Language Arts VIII-6; Math V-1

Content Standard III

Objective 1

Connections

Background Information

Each of the four seasons has general characteristics that makes it different from the rest. We can use our five senses to discover different attributes of each season. We smell different things, hear different sounds, taste different foods, have different activities, and see changes around us as the seasons rotate through the year. We use different words when we describe different seasons. This activity is a culminating activity about seasons. Students will be able to demonstrate the many attributes they've discovered about each season using corporative learning.

Invitation to Learn

Ask the class the following set of questions:

- Would you go snow skiing in summer?
- Do you pick apples in spring?
- When do you eat watermelon?
- When do you hear sprinklers?
- Can you smell flowers outside in the winter? Why not?

Instructional Procedures

Materials

One per class

- ☐ Four 24" x 24" butcher paper squares, one in green, yellow, blue, and orange

- ☐ One 57" x 57" piece of black butcher paper

- ☐ *My Circle of Seasons*

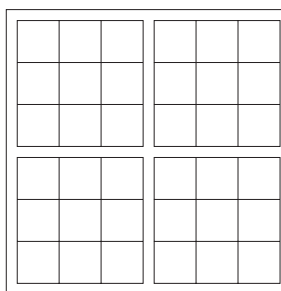
One per student

- ☐ 8" x 8" square of white construction paper

- ☐ Markers or crayons

- ☐ Glue

1. Today we are going to make a *Five Senses and Four Seasons* quilt. Read the book *My Circle of Seasons* by Gerda Muller
2. Divide the class into four different seasonal groups. (You may assign groups or let students choose so that the numbers will be even.)
3. Give each group an 8" x 8" piece of white construction paper. Have each group brainstorm about how the five senses help us learn about the season it has been assigned. Have one person in each group draw something that s/he can hear, see, feel, taste, or smell. Each group should have four squares with pictures draw using markers or crayons.



4. For the center square each group will write a cinquain about their season.

A cinquain is written in this order:

First line—one word (name something you see)

Second line—two words (use words that describe how it feels)

Third line—three words (something you hear)

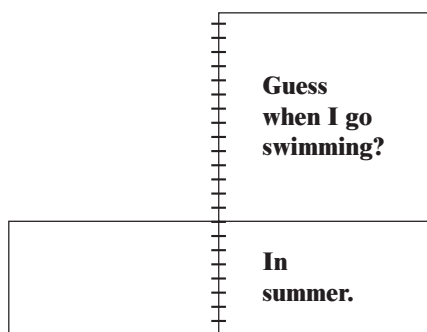
Fourth line—four words (something to taste or smell)

Fifth line—one word (name of the season)

5. Glue each of the five squares (four pictures and one poem) onto the colored butcher paper square that matches the season: blue for winter, green for spring, yellow for summer, and orange for fall.
6. Glue each 24" square onto the black paper leaving a 3" border around each square.
7. Review the pictures and the cinquains with the class. Have the class guess the last line of each cinquain. The teacher may want to discuss other possibilities for pictures.

Additional Language Arts Activities

1. Let each student make a small book entitled *In Summer I Like to* _____. Individual books may be created in class or as homework.
2. Make a class book entitled *Guess When*. On the top half, each student writes a question about a season and one of the senses, such as, “Guess when you drink hot chocolate?” Or “Guess when I hear crunchy leaves?” The bottom half shows the illustration and answer, but is covered with a half sheet of colored paper so the answer can’t be seen (see illustration).



Assessment Suggestions

The students can be assessed as they share their ideas about how they use their five senses in each season. The artwork and cinquain suggestions will also be an indicator as to whether students understand about each season and about the five senses.

Additional Resources

My Favorite Time of Year, by Susan Person; ISBN 0590-46353-5

Caps, Hats, Socks, and Mittens, by Louise Borden;
ISBN 0-590-72429-0

Snowy, Flowy, Blowy, by Nancy Tufari; ISBN 0-590-18973-5

The Four Seasons, by Ruth Thomson; ISBN 0-918831-63-6

Names of Snow, by Judi K. Beach; ISBN 078681937-5

Family Connections

- Students may identify, draw, and label things they see, hear, smell, taste, and touch in their homes or neighborhoods during each season. When these papers are returned, they may be placed in their portfolios and brought out to examine before beginning this activity.
- Send home the *Guess When* book for families to share together.

Weather Walks

Content Standard III:

Students will develop an understanding of their environment..

Objective 1:

Investigate changes in the seasons.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
5. Understand and use basic concepts and skills.

Content Connections:

Language Arts VIII-2; Math III-1, V-1; Content I-2

Content Standard III

Objective 1

Connections

Background Information

Weather develops in the air that surrounds Earth. The condition of the air determines the temperature and whether the day is cloudy or clear, windy or calm. The combination of these conditions determines whether we have rain or snow. Temperature is one of these conditions. Heat from the sun warms Earth's atmosphere and surface waters. Cloudy days may be cooler than sunny days because clouds block some of the sun's warmth. Wind is moving air. Some winds are gentle; others are very strong.

There are different tools to help us observe, measure and track weather. Meteorologists are people who report and forecast the weather.

Invitation to Learn

Teach students the weather song that goes to the tune of BINGO. The words are:

We have weather everyday

Today is sunny weather.

S-U-N-N-Y, S-U-N-N-Y, S-U-N-N-Y

Today it's sunny weather.

Change the words of the song to match the weather—possibilities include: snowy, windy, rainy, foggy, cloudy.

Tell students that they are going to become weather watchers and weather walkers! Be flexible and ready to include the following activities on an appropriate day.

Instructional Procedures

Materials

One per class:

- ☐ *What Makes a Shadow*
- ☐ Sidewalk chalk
- ☐ *Sun Song*

Sunny Walk

1. Discuss that it can be sunny weather in the summer and in the winter. When it is sunny weather we have shadows. The sun's rays cannot pass through solid objects so shadows are the places light could not get through.
2. Read *What Makes a Shadow*.
3. Divide up into partners. Go outside and trace each others' shadows on the sidewalk with chalk.
4. You may want to go outside later and see if you can "fit" into the shadow tracings made earlier in the day. Explain how the sun appears to have moved in the sky, causing a change in the shadows.
5. *Sun Song* by Jean Marzollo describes the sun's activities from sunrise to sunset.

Family Connections

- Have students observe where the sun sets and at what time, and where the sun rises and at what time.

Materials

For the class:

- ☐ Thermometer
- ☐ Roll of paper towels
- ☐ Ziploc bag
- ☐ Two glass jars that are the same size
- ☐ Two elastic bands
- ☐ Chart paper
- ☐ Markers

For each student:

- ☐ Paintbrushes
- ☐ Bucket of water
- ☐ White construction paper
- ☐ Corn syrup
- ☐ Yellow food coloring
- ☐ Scissors

Hot Walk

1. Take a thermometer outside with you and determine where the hottest area in the playground is. Experiment with the sidewalk, a shady spot, and the sandbox. Discuss your findings.
2. After studying about shapes, draw shapes on the sidewalk with paintbrushes and water. Discuss why the water disappears.
3. Take two paper towels and wet each of them. Ask the class which one will dry first: the one you leave in the shade, or the one you leave in the sun. Take a class vote and chart your predictions and your findings. This is a good time to remind students that scientists are interested in learning, not in wanting to vote like their friends. All ideas are important.
4. Take two paper towels and wet each of them. Place one towel spread out inside. Squeeze the other towel into a small ball. Ask the class which will dry first. Chart predictions and findings. Relate this experiment to towels students might use when swimming. Ask, "Which way will your towel dry fastest; hanging up or in a pile on the floor?" Explain how air dries the towel and how we can use that knowledge to help us.

5. Take two paper towels and wet each of them. Place one in a sealed Ziploc bag and the other on a counter. Follow the procedure used in #4.
6. Fill two jars that are the same size and shape with the same amount of water. Place a rubber band around the jars to show the water level. Put a lid on one jar and leave the other without a lid. Ask the students what they think will happen. Chart their predictions. Check the jars each day for a week. Read the predictions and discuss what happened. The water without the lid evaporated because it is exposed to air. The water in the other jar stayed the same because the air stayed the same.

Language Arts and Art Connection

1. Have each child draw or trace a large sun on white construction paper.
2. Draw a dark pencil drawing (representative of a shadow) of a favorite summertime activity inside the sun. Have students write and complete the sentence, “In summer I like to _____” underneath their drawing.
3. Cut the large sun out.
4. Paint over the drawings and words with a transparent paint made by mixing one cup corn syrup with about 20 drops yellow food coloring. Let this dry a day or two.

Family Connections

- Have students do one experiment at home and report his/her findings with the class.

Wind Walk

1. Read the poem, “Who Has Seen the Wind?” by Christina Rossetti (p. 7-17).
2. Ask what happened when the wind was passing through.
3. Ask students how they can tell which direction the wind is blowing.
4. Go outside and have students run into the wind, as well as with the wind. Discuss which one is easier. Skip, hop, and twirl with the wind.
5. Give students a four foot crepe paper streamer to take outside. Experiment which way the streamer moves when you move it up and down or try to spin it.
6. Wet a finger and hold it up in the air. Ask students what they feel? The wind will cool one side as it passes by.

Materials

One per class:

- ☐ Poem, “Who Has Seen the Wind?”
- ☐ *The Wind Blew*

One per student:

- ☐ Crepe paper streamers
- ☐ Crayons
- ☐ White construction paper
- ☐ Paper strips
- ☐ Glue stick

Language Arts and Art Connection

1. Read *The Wind Blew* by Pat Hutchins
2. Make a class book similar to *The Wind Blew*. Ask each student to fill in the blank “The wind blew my _____.” Write the completed sentence for each student. Then cut the sentence into individual words. Have each student glue his/her “word puzzle” together in order at the bottom of the page, illustrate his/her page with crayons, and bind the pages together into a book.
3. Let each child read his/her own page to the class.

Family Connections

- Have students make a book at home entitled, *What Moves in the Wind*. Share with the class.

Rain Walk

Materials

One per class

- ☐ *Rain Talk*
- ☐ *Wet World*

One per student

- ☐ Foil pie plates
- ☐ Blue construction paper
- ☐ String
- ☐ Paper punch
- ☐ Gray butcher paper
- ☐ Tape
- ☐ Rain gear

1. Explain that the students are going to be detectives. They are going to discover the answer to some rain questions. The questions are:
 - Where is the biggest puddle on our playground and why is it so large?
 - What do raindrops do when they land on the sidewalk?
 - What do raindrops do when they land on the grass?
 - What do raindrops do when they land on our coats?
 - What do raindrops do when they land on leaves?
2. Chart the predictions on a chart using the headings “What We Think” and “What We Learned” before the class goes outside and when they come back.
3. Have students hold foil pie plates above their heads and listen to the sound the rain makes as they stand outside. Back in the classroom, demonstrate how to tap on the back of the foil pan with a pencil to imitate the sound of the raindrop. Experiment what a thunderstorm would sound like, as well as a drizzle, a light rain, and a steady downpour.
4. Read *Wet World* by Norma Simon.
5. Experiment with hands to find other ways to make rain sounds (e.g., snapping, rubbing, clapping, etc.).

Language Arts and Art Connection

1. Have students cut large water drops out of blue construction paper. Write words that describe rain on both sides, such as wet, splashing, cold, etc.
2. Punch a hole at the top of each drop and tie a string of different lengths to each.
3. Cut two large clouds that are exactly the same (you may want to provide a template to trace around) out of gray butcher paper. Staple around the two clouds about half way. Stuff the cloud with scraps of paper and then finish stapling the rest.
4. Tape the ends of the strings with the water drops to the bottom of the cloud so that the water drops can dangle under the puffy cloud (see illustration).

**Snowy Walk**

1. Read *The Snowy Day* by Ezra Keats.
2. Have students measure how deep the snow is in different places. Discuss why it is different.
3. Take the temperature of the snow and the ground beneath. Is it different? Discuss why. How would that affect animals?
4. Collect snow in one jar and ice in another.
5. Place an elastic band around the jars to show where the snow and ice levels are. Ask the class for predictions about how much water will remain when the ice and snow melt. Will the water level be above the elastic or below the elastic? Record the answers.
6. Ask students which jar will melt faster, the ice or the snow. Record their predictions and later their answers.
7. Explain that there is more air in snow so it makes less water. The air also causes the snow to melt faster. Have students observe how clean the melted snow is. Discuss the reasons for not eating snow.

Materials

One per class

- ☐ Two glass jars
- ☐ Thermometer
- ☐ *The Snowy Day*
- ☐ Yardstick
- ☐ 2 Elastic bands

Language Arts and Art Connection

- Have students use crayons to draw a winter tree and themselves wearing winter clothes on blue construction paper. Under supervision have students dab Q-tips into bleach to paint snowflakes on their pictures. Underneath have students finish the sentence: In winter I like to _____.

Assessment Suggestions

Student artwork and participation in each weather walk is a good assessment of whether they understand the concepts covered. Each weather walk is designed to help students become more observant and experience the weather in different ways than they might have before.

Additional Resources

What Makes a Shadow, by Clyde Robert Bulla; ISBN 0060229152

Sun Song, by Jean Marzollo; ISBN 060611937X

The Wind Blew, by Pat Hutchins; ISBN 068971744X

Wet World, by Norma Simon; ISBN 1564021904

The Snowy Day, by Ezra Jack Keats; ISBN 0670867330

Weather, by Ann Flag; ISBN 0-590-13111-7

Whatever the Weather, by Karen Wallace; ISBN 0-7894-4750-9

Shadows, by Carolyn B. Otto; ISBN 0-439-20548-4

Guess Whose Shadow, by Stephen R. Swinburne;
ISBN 0-439-26651-3

Family Connections

- Have students watch the weather on television. Have them record the temperature and the forecast for the next day.
- Have students bring weather maps from the newspaper. Let them share the information they have learned from the map.

Who Has Seen the Wind?

By Christina Rossetti

Who has seen the wind?
Neither I nor you.
But when the leaves hang trembling,
The wind is passing through.
Who has seen the wind?
Neither you nor I.
But when the trees bow down their heads,
The wind is passing by.

Ants

Content Standard III

Objective 2

Connections

Content Standard III:

Students will develop an understanding of their environment..

Objective 2:

Observe and describe animals in the local environment.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts VI-1; Math I-1

Background Information

Our backyards are full of animals. Insects are everywhere and come in many sizes, shapes, and colors. They eat, have homes, and have specific characteristics. Ants are insects. Ants have three body parts: the head, thorax, and abdomen. Ants are like people in many ways. Have several books about ants available.

Invitation to Learn

To create interest in learning about ants, the teacher guides the class in a discussion about how ants are different and the same as people. These ideas should be listed on a chart divided in half with the headings “How We Are the Same” and “How We Are Different.” After students have given initial observations, additional questions can be asked.

1. Do ants have homes similar to ours?
2. Do ants take care of their young?
3. Do ants have jobs?
4. Do ants have babies?
5. How do ants get their food?
6. Are ants strong?

Instructional Procedures

1. Read *Ant Cities* by Arthur Dorros.
2. Have students add ideas to the chart on how ants are the same and different than people.
3. Model the three parts of an ant.
4. Make a class mural of an ant city. Prepare the background for the mural using butcher paper. It should include an underground view of the different rooms, tunnels, ant hill, top grass, and sky.
5. Give each student a 3" x 3" piece of white construction paper. Students will draw their own ant, including the three body parts, with crayons. Have each student cut out his/her ant and place it anywhere that is appropriate on the mural.
6. Have the class work together to label each room and review its uses.
7. Start a classroom ant farm. See *Additional Resources* for ordering information.

Additional Math Activities

1. Pass out the *Ant City* handout (p. 7-21). Each room has a number in it. Have students count out the correct number of plastic ants for each room. Switch with a partner to check each other's papers.
2. Have students play *Who Can Find the Anthill* (p. 7-22). Each student has his/her own handout. Place one plastic ant on each numbered starting spot. Each student rolls a die. Whichever ant is on the corresponding number is moved one stepping stone toward the anthill. Game continues in this manner until an ant reaches the anthill.
3. Use plastic ants for different addition or subtraction activities.

Additional Language Arts Activities

Make a class book entitled, *An Ant Can*.

1. Brainstorm with the class all the different activities ants do. List these on the board.
2. Have each student choose one idea. Give each student a piece of construction paper. Have students use an ant stamp to illustrate a picture.

Materials

One per class:

- ☐ 3' x 5' butcher paper mural with ant hill, tunnels, rooms, grass and sky (see illustration)

- ☐ *Ant Cities*

One per student:

- ☐ 3" x 3" white construction paper
- ☐ Crayons
- ☐ Scissors
- ☐ Glue stick
- ☐ *Ant City* handout
- ☐ Plastic ants
- ☐ *Who Can Find the Anthill?* handout
- ☐ Ant stamp

3. Label the page: An ant can _____.

Activities: march build carry dig cut
 climb eat groom take out trash
 fight sleep babysit cut leaves
 help others listen milk aphids

4. Create a cover and bind all the pages together.

Small Motor Activities

1. Use Model Magic to sculpt an ant. Remember to have three body parts.
2. Use markers to paint it.

Assessment Suggestions

As students engage in each activity observe their understanding of how ants live. Math activities assess counting, one-to-one correspondence, and number recognition. Writing skills and beginning sounds can be assessed as students make and read the class book.

Additional Resources

Books

Ant Cities, by Arthur Dorros; ISBN 0064450741

What Is an Insect?, by Susan Canizares and Mary Reid;
ISBN 0590397907

Backyard Detective, by Nic Bishop; ISBN 0-439-51839-3

The World of Ants, by Melvin Berger; ISBN 1-56784-008-6

Additional Media

Classroom Ant Farm (Lakeshore Learning Materials,
<http://lakeshorelearning.com>); Item BR763

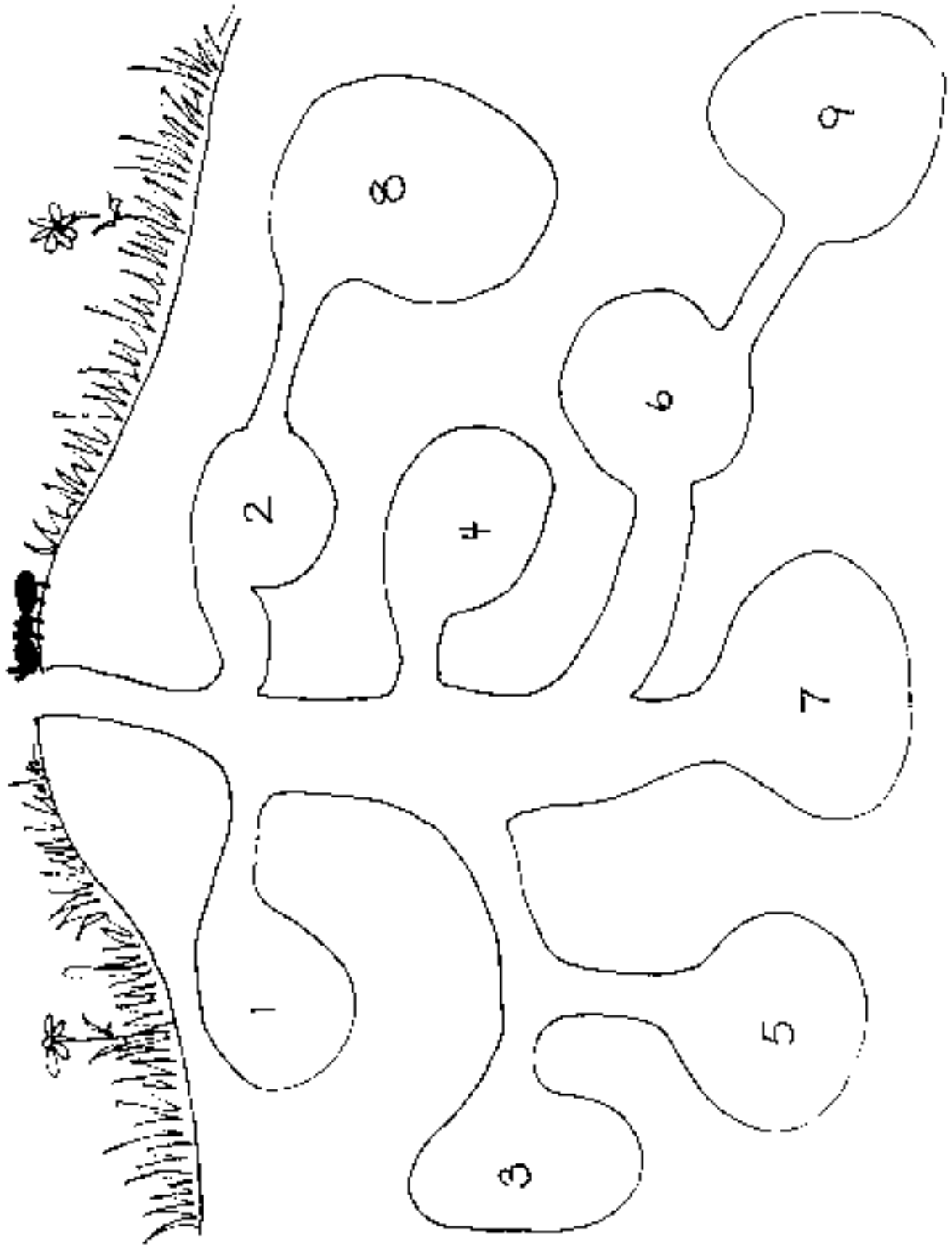
Ants (Life Studies, <http://infowest.com>, 877-864-2207 or
life@infowest.com)

Family Connections

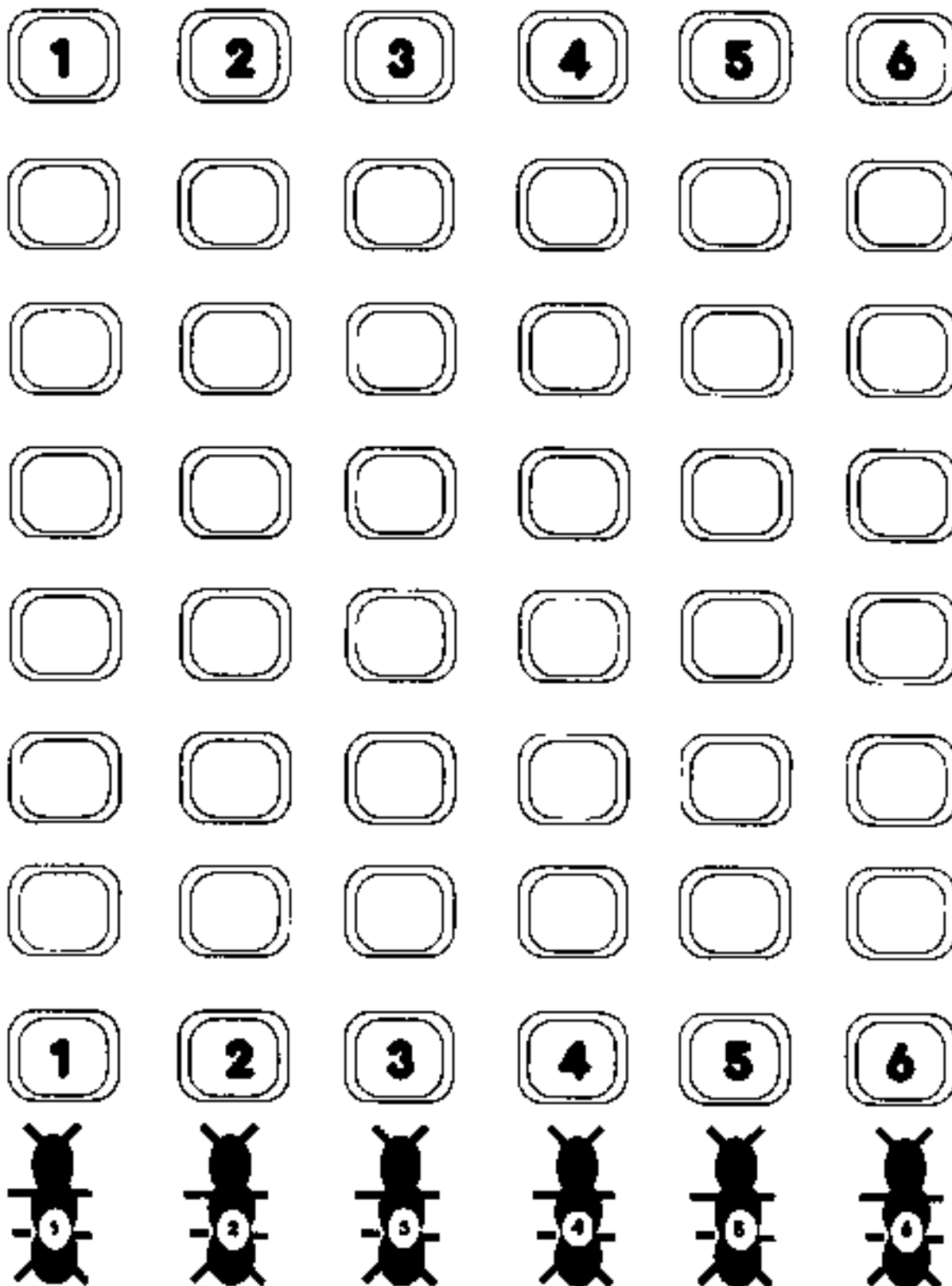
- Invite students to begin to look for different insects that may be in their backyard. Have them bring them to school in appropriate containers.
- Have students practice writing words that use the “an” family (e.g., fan, can, man, etc.).

Name _____

Ant City



Who Can Find the Anthill?



Pets—Stuffed Animal Day

Content Standard III:

Students will develop an understanding of their environment..

Objective 2:

Observe and describe animals in the local environment.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts IV-4, VII-2; Math I-3, II-1

Content Standard III

Objective 2

Connections

Background Information

There are different kinds of animals. Familiar animal categories are birds, insects, mammals, reptiles, and fish. Animals are all around us. Some animals are tame, others are wild. Tame animals are animals that live with or around people. When animals live with people they are called pets. People need to take care of pets by providing food and shelter.

Invitation to Learn

Students should be asked ahead of time to bring their favorite stuffed animal. Ask students what they think would be the perfect pet. Read *The Perfect Pet* by Courtney Baker.

Instructional Procedures

1. Tell the students that they are going to make a graph of all the stuffed pet animals they brought today.
2. Give each student a copy of *Our Classroom Stuffed Animals* graph (p. 7-26).
3. Read the name of the first animal. Have all students who brought that animal bring their pet up to the front. Have the class count and graph the number of pets.
4. Continue the same way with all the animals listed. If an animal is brought that is not listed, have the students write the animal name in the blank squares and graph.
5. Discuss the findings of the graph. Determine which animal there was the most of, the least, and the same.

Materials

One per class:

- ☐ *The Perfect Pet*
- ☐ *Franklin Wants a Pet*

One per student:

- ☐ *Our Classroom Stuffed Animals* graph
- ☐ Crayons
- ☐ *My Pet Book*
- ☐ *Animal Fact Wheel*
- ☐ Goldfish crackers
- ☐ *Subtraction* sheet

6. Discuss which pet animal could be a real pet and which could not. Talk about tame and wild animals.
7. Pass out the writing booklet entitled *My Pet Book* (p. 7-27) to each student. Have students read the first page together and fill in the sentence. Have each student illustrate what his/her pet looks like. Have students finish the booklet independently.

Language Arts Research Activity

1. Explain to each student that s/he is going to have a chance to teach the class an interesting fact about a pet.
2. Demonstrate how each student will present his/her information to the class by showing the *Animal Fact Wheel* (p. 7-31). Each student will choose an animal and learn what they eat, what the baby animal is called, how the animal moves, and one additional interesting fact.
3. Discuss where students can look to find this information.
4. Assign each student a day and time to present his/her project.

Math Activity

1. Read the book *Franklin Wants a Pet*.
2. Discuss what kind of care different pets need.
3. Tell students that today they are going to subtract pets. Distribute *Subtraction* handout (p. 7-33) and a small cup of goldfish crackers to each student. Have each student place the amount of goldfish shown on the first problem. Explain that subtraction also means “take away” or “minus” and is represented by subtraction sign (-). Ask the class how we could subtract some goldfish (by eating them). Work through each problem together as a class.
4. Have students sort pets in a variety of ways (e.g., size, number of legs, tame or wild, etc.).

Assessment Suggestions

- The assessment for these activities comes through the involvement of the activity. Can the student graph the pets that are brought to class? Can s/he read the graph to answer questions? Can the student complete the subtraction problems without teacher intervention? As the student presents his/her *Animal Fact Wheel*, make sure the wheel is complete. Can s/he share a fact about the animal?

Additional Resources

The Perfect Pet, by Courtney Baker; ISBN 0439471117

Franklin Wants a Pet, by Paulette Bourgeois and Brenda Clark;
ISBN 0613002369

Good Dog Carl, by Alexandra Day; ISBN 0-590-72629-3

The Pet that I Want, by Mary Packard; ISBN 0-590-48512-1

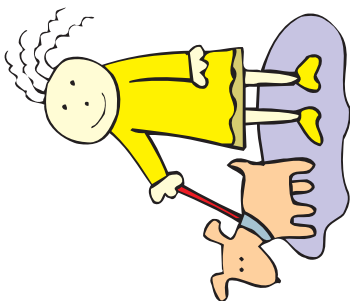
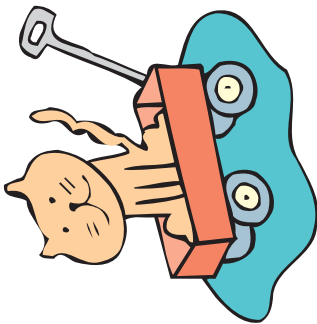
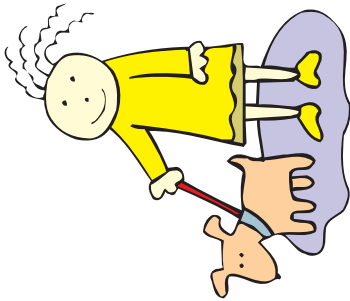
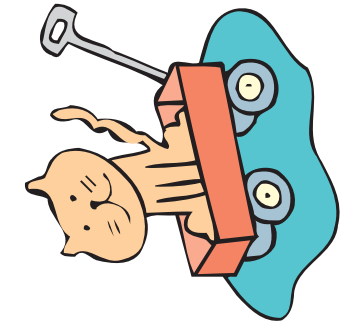
Pet Show, by Ezra Jack Keats; ISBN 0-02-179071-X

Family Connections

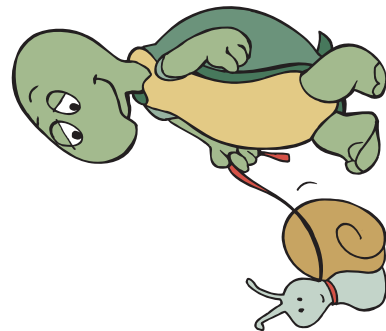
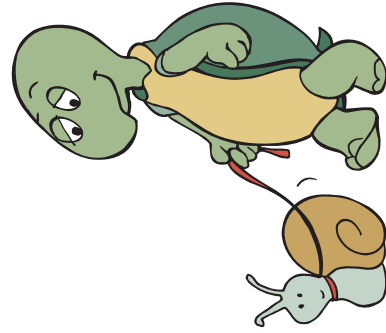
- Have students make a graph of what each family member (or friends) would choose for their favorite pet.
- Have students make books at home with some of the listed titles:
 1. *My Favorite Make Believe Pet*
 2. *Things I Like To Do With My Pet*
 3. *Pet Tricks*
 4. *Places We Go Together*

Our Classroom Stuffed Animals

	1	2	3	4	5	6	
dog							
cat							
lion							
rabbit							
lamb							
monkey							
bear							



My Pet Book



By _____

By _____

My stuffed animal is

a

a

My stuffed animal is

My pet and I like to

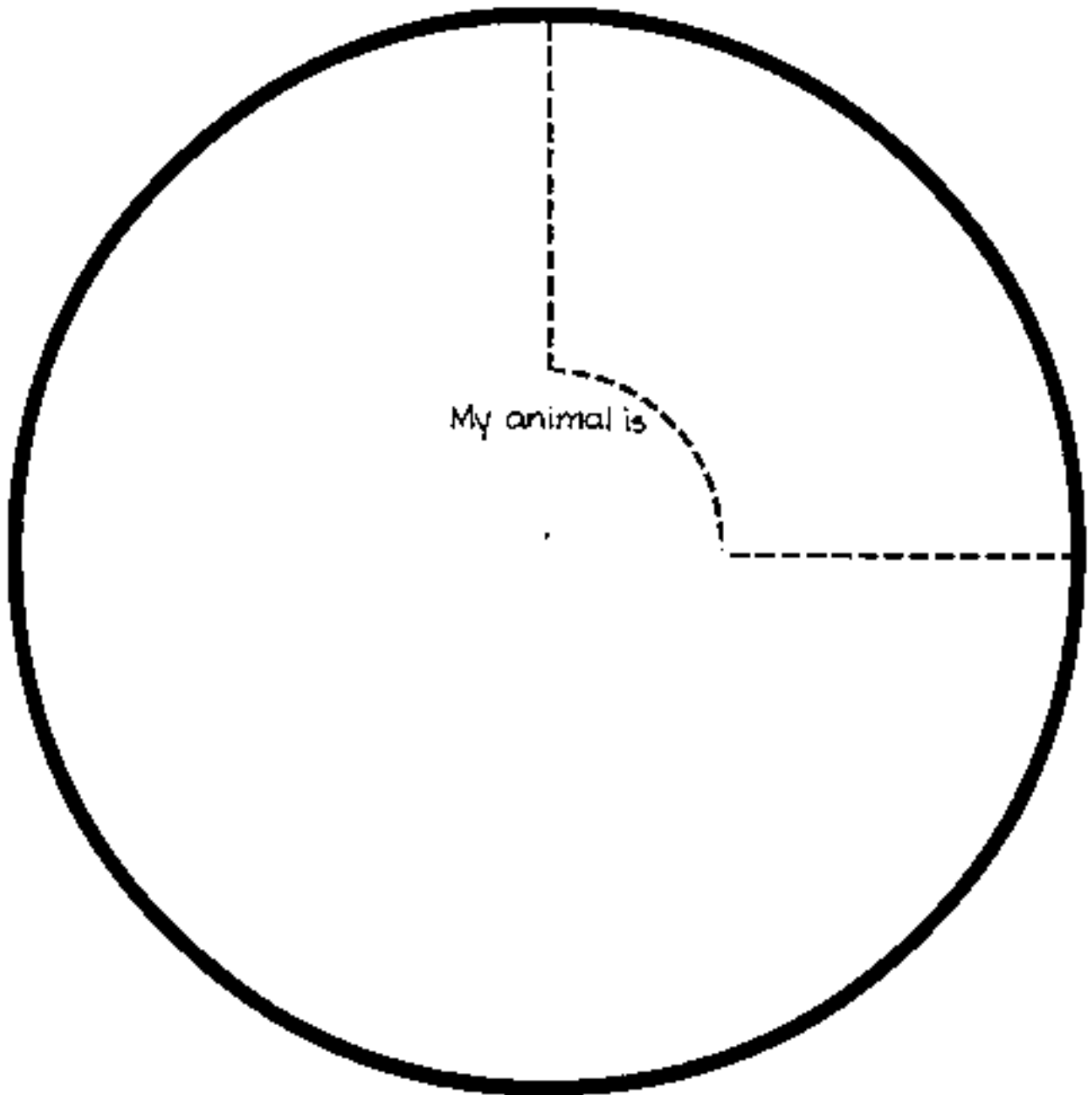
My pet and I like to

We are friends.

We are friends.

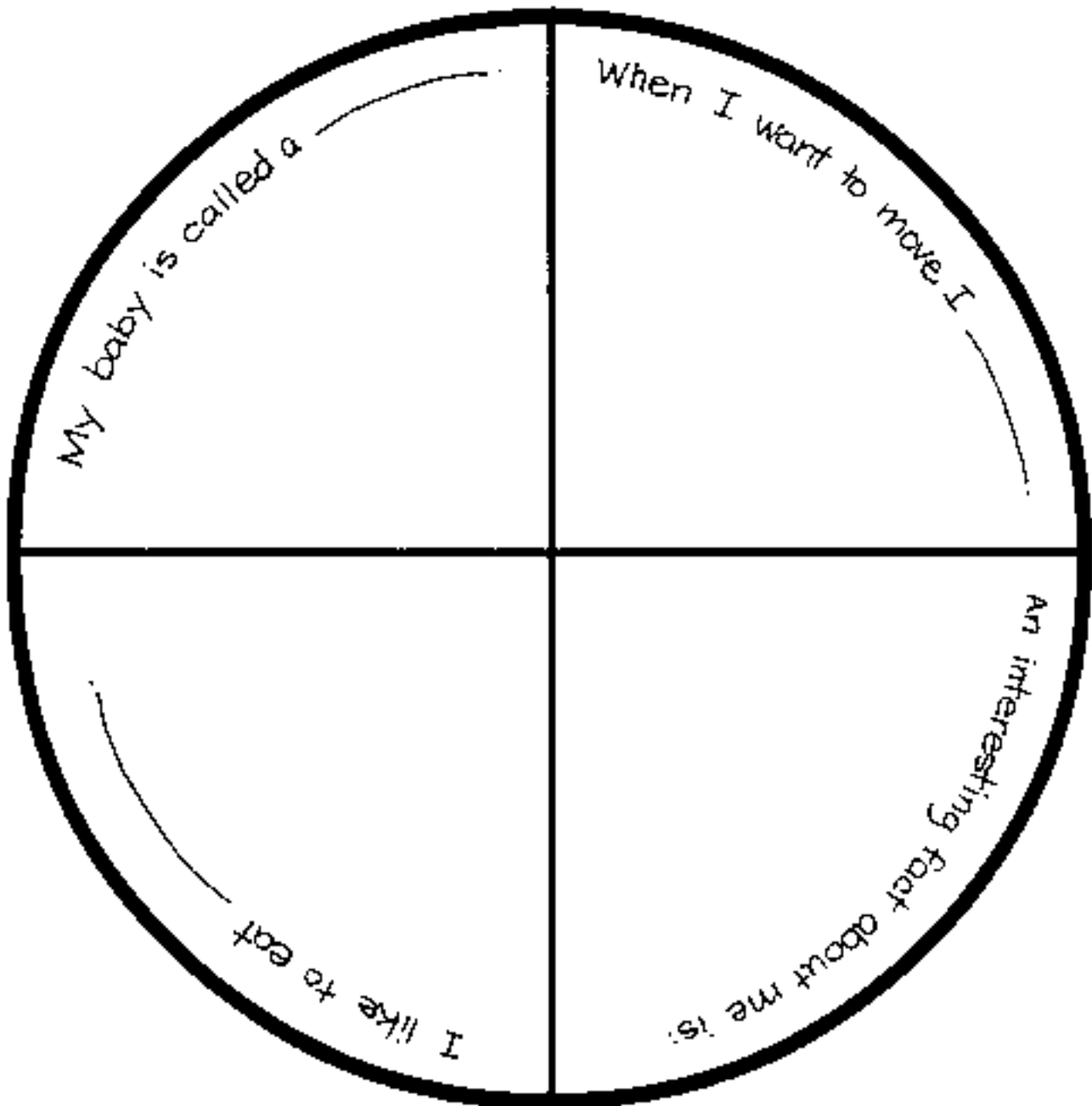
Animal Fact Wheel A

cut on the dotted line.



Place wheel A on top of wheel B.
Attach with a brad at dot.


Animal Fact Wheel B




Name _____

Subtraction

①  $5 - 3 = \underline{\quad}$

②  $4 - 1 = \underline{\quad}$

③  $6 - 2 = \underline{\quad}$

④  $3 - 2 = \underline{\quad}$

Tortoise and Hare Races

Content Standard III

Objective 3

Connections

Content Standard III:

Students will develop an understanding of their environment..

Objective 3:

Recognize symbols and models used to represent features of the environment.

Intended Learning Outcomes:

3. Demonstrate responsible emotional and cognitive behaviors.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts VII-2; Content I-2, II-1

Background Information

The Tortoise and the Hare: An Aesop Fable is a short story that describes a race between two animals. The hare being a very fast animal, and the tortoise a very slow animal. The story involves a simple path with a few locations and is a great vehicle to teach students basic map skills. It also involves a problem and solution and character traits that young children can understand.

Invitation to Learn

Materials

One per class:

- ☐ *The Tortoise and the Hare: An Aesop Fable*
- ☐ 11" x 18" construction paper
- ☐ Two paper clips
- ☐ Picture of hare and tortoise (see illustration)
- ☐ Two small magnets
- ☐ Two pencils
- ☐ Cookie sheet

One per student

- ☐ Cardboard tube with 10 feet of yarn attached
- ☐ Copy of tortoise on green construction paper (see handout)

Ask the class if it is best to be fast or slow? Why? After a brief discussion tell the students that you are going to read a story where two animals have a race. Ask the class if they know what a hare is. Explain that a hare is similar to a rabbit. Discuss traits of a hare. Repeat this with the tortoise.

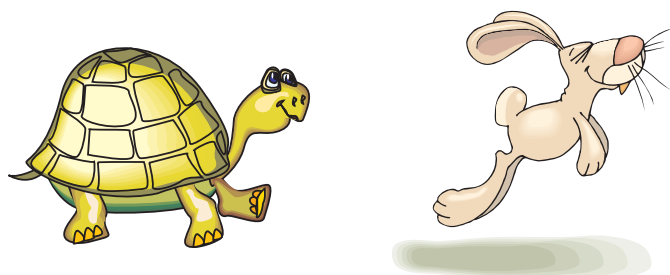
Instructional Procedures

Session One

1. Read the book *The Tortoise and the Hare: An Aesop Fable* by Janet Stevens.
2. After the first reading, discuss the path the two animals took, what they passed, where they stopped to rest, and where the finish line was. Ask the students how they would draw this path. What different symbols would they use? Could there be other ways to illustrate the race?
3. Draw a model of the racecourse on a 11" x 18" piece of construction paper. Discuss different symbols you might use. A

red star might show the starting spot. A green triangle is the tree where the hare stopped.

4. Glue a small picture of the hare on a paper clip and do the same with the tortoise.



5. Tape the map on top of a cookie sheet. Place both the hare and the tortoise that have been glued to paperclips at the starting point of the map. Using magnets underneath, have two students try to move each animal to the finish line.
6. Place this game in a center.

Session Two—Tortoise Race

1. Reread the story of *The Tortoise and the Hare: An Aesop Fable*.
2. Ask students if only fast people are the best. Discuss how being fast relates to school. Review the idea that doing work fast is not important, but that doing your best makes everyone a winner. Discuss how tortoise's friends didn't give up on him. Talk about how we can encourage others in our classroom.
3. Pass out the *Tortoise* (p. 7-37), copied on green construction paper, to each student. Have student cut out the tortoise and punch a hole out on the tip of the head.
4. Pass out a cardboard tube that has ten feet of yarn tied to it. Students should wind the yarn around the tube and tie the loose end of yarn to the punched hole in the tortoise.
5. To race tortoises have four students line up side by side. Each student should put both pointer fingers inside each side of the tube so that as the teacher pulls the tortoise out to the starting line the tortoise will quickly unwind. When all four tortoises are ready on the floor at the starting line, the teacher says, "Go." Each student will then roll the yarn around his/her tube by keeping both hands on the tube and turning the tube as quickly as s/he can.
6. Remind students that everyone who finishes is a winner.

Additional Language Arts Activities

1. Students can write in his/her journal an ending to the sentence “I am a winner when I _____.”
2. Read *Rosie’s Walk* by Pat Hutchins. Make an obstacle course in the room that resembles the walk in the book. Draw a path on paper to show Rosie’s walk.

Assessment Suggestion

- Have students retell the story of *The Tortoise and the Hare* to a buddy. This works best if the buddy is from an older grade. Provide a few key questions the older buddy should ask such as: Why did the tortoise win? Why did the hare stop? How did tortoise’s friends treat him? How should we treat children in the class who finish last?

Additional Resources

The Tortoise and the Hare: An Aesop Fable, by Janet Stevens;
ISBN 0823405109

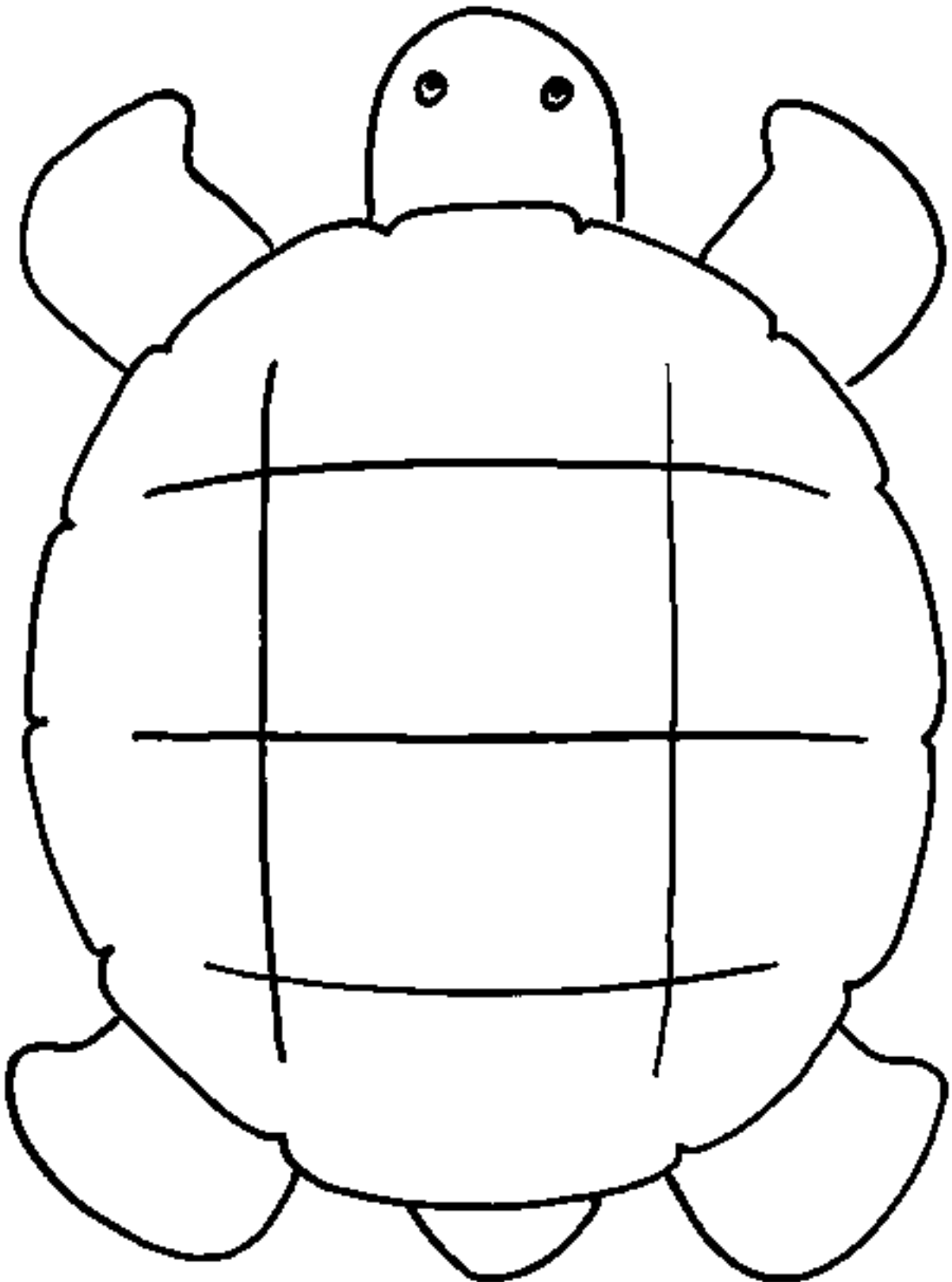
Rosie’s Walk, by Pat Hutchins; ISBN 0-590-71809-6

As the Crow Flies, by Gail Hartman; ISBN 0-02-179005-1

Family Connections

- Have students retell *The Tortoise and the Hare* at home. Encourage students to time parents and siblings as they try the tortoise race. Record which family member is fastest and slowest at home. Encourage students to explain to parents why it’s more important to do your personal best rather than be first.
- Have students read journal page to parents.
- Have students ask parents to tell them of a time in the parent’s life when they came in last and what they learned.

Tortoise



Maps and Me

Content Standard III

Objective 3

Connections

Content Standard III:

Students will develop an understanding of their environment..

Objective 3:

Recognize symbols and models used to represent features of the environment.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Math III-2, V-1; Content I-2

Background Information

Me on the Map by Joan Sweeney is an excellent introduction to illustrate how different maps represent a variety of locations. Maps can be of small areas like a room or show larger areas like the world. Maps are a bird's eye view of objects and show basic items. They use symbols to represent different things. A rectangle in a map of a room may represent a bed. A rectangle on a map of a town may represent a building. Maps usually do not show everything. Maps use the directions north, south, east and west. It's important when making a map or reading a map to know which direction is north. Maps give useful information.

Invitation to Learn

Ask students the name of our country, state, and city. Ask, "If I wanted to go to our school, how would I know how to get there? If I wanted to get to our classroom, how would I know where it is? How would I know where your desk is?" Discuss the difference between an address and a map.

Instructional Procedures

This activity is broken up into five different sessions.

Session One—Learning About Maps

1. Read *Me on the Map*. Discuss how a map is a bird's eye view. Maps show basic features but not everything.
2. Brainstorm together how you could make a map of the classroom. Use an 11" x 18" piece of construction paper and some blocks. Discuss what pieces of furniture would be important to place on a

map. Place blocks on the paper to represent items in the room. Discuss why you would or would not put some things on the map (e.g., windows, people, small items, things on desks, etc.). After all the main items are represented, use a marker and trace around the blocks, then remove them.

3. After all the blocks have been removed from the paper and only the outlines remain review what each shape is. Discuss how these are symbols of each item.
4. Ask students how a person would know which direction to hold the map. Discuss north, south, east, and west. Decide which direction is north and mark it on the map.

Session Two—Making Maps

1. After having worked as a class and modeled how to design a map of the classroom, divide the class into groups of four to six students per group.
2. Give each group an 11" x 18" piece of construction paper, some blocks, and markers.
3. Have each group work together to map out the room with blocks.
4. Brainstorm how to trace the shapes so that everyone has a turn. Discuss how to work together so that one person holds the blocks as another traces.
5. When all the shapes are traced and blocks are removed, remind students that each map needs to show where north is so the readers will be able to orient themselves.

Session Three—The Treasure Hunt

Before this activity, do the first three items listed below while students are out of the classroom.

1. Take each group's map (or copy a smaller version of a classroom map four times) and place a colored X in a different place on each map.
2. On four small pieces of paper write one word of the sentence "Go to the ____ (somewhere in the room). These are the clues for the class to eventually find the treasure. Tape each paper to the corresponding location of the X placed on one of the maps.
3. Place a prize in the location mentioned in the clue sentence with a note taped around it that says, "You found the treasure!"
4. When the students are ready to go on with the activity, explain that they will be given a map with a colored X marked on it. As a

Materials

One per class:

- ☐ *Me on the Map*
- ☐ Tub of different shaped blocks
- ☐ 11" x 18" piece of construction paper
- ☐ Markers
- ☐ Treasure (any kind of treat)
- ☐ 4 pieces of paper

One for each group:
(4 groups)

- ☐ 11" x 18" piece of construction paper
- ☐ Markers
- ☐ Different shaped blocks

One per person:

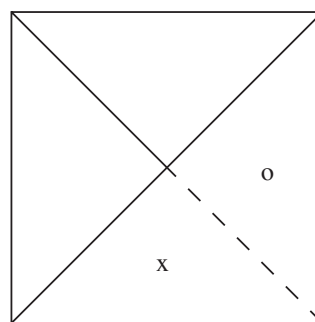
- ☐ Model Magic
- ☐ 9" x 9" piece of construction paper
- ☐ Markers

group they are to quietly decide where the X is located, then go together to that spot and bring whatever they find to the front of the class. They may not go claim the prize until everyone has read the map.

5. Give each group their map turned upside down. When each group has one, instruct them to turn it over and follow their map.
6. After each group has come to the front, gather all the clues and maps. Show the whole class each map and have them tell where each clue was found.
7. Hang up each clue one at a time. This is a good time to reinforce high frequency words and that sentences begin with a capital letter. When the entire clue is read, choose a student to go to that location and find the treasure.
8. As students enjoy their treasure, review all the important elements of maps.

Session Four—Me in My Room Triorama

1. Reread *Me on the Map*. Discuss how we use simple shapes to show things on maps.
2. Ask students what kinds of furniture they have in their bedrooms. Explain that each student is going to make a small model of themselves in their own bedroom.
3. Demonstrate how to make a triorama. Give each student a 9" x 9" piece of construction paper that has been folded in half to form a triangle and in half again form a quarter triangle. On one triangle next to the cut edge, place a big X. The other triangle that has been cut will be the floor. Have students use markers to draw the windows, pictures on the walls and shapes to represent dressers, their bed and other furniture pieces. Glue the triangle with the X under the adjacent triangle to form a pyramid.



Cut on the
dotted line.

Session Five—Model of Me

1. Using Model Magic, demonstrate to students how to sculpt a simple model of themselves sitting down. Roll a ball for the head, a larger oval for the body, two medium rolls for arms and two longer rolls for legs. Demonstrate different techniques for making hair and sculpting the face. Then squeeze each piece together.
2. Have students make models.
3. Color models with markers to represent something they are wearing or their favorite thing to wear.
4. Place model in triorama.

Additional Activities

- Have students write in their journals where they found the treasure.
- Put out blocks with cars in a center for small groups to design a town.
- Environmental print could be added to a rug map in a center.
- Provide Legos for student to design a house like the one they live in.
- Make a graph for the number of rooms in students' houses.

Assessment Suggestions

- One of the most important observations made by the teacher during this activity should be how well students work together. Cooperative learning should be encouraged, modeled, pointed out, and celebrated. The teacher should give suggestions to groups or ask questions while the group is designing their map to assess whether students understand the elements of a map.

Additional Resources

Me on the Map, by Joan Sweeney; ISBN 0-590-10705-4

My Map Book, by Sara Fanelli; ISBN 0060264551

Family Connections

- Have students make a map of their home. If they live in a two story home, only draw one floor.
- Have students look at a map of Utah with his/her parents. Locate where relatives live.

***Math
Standard IV
Activities***

Kindergarten Daily Starter Activities

Suggestion: Use these starter ideas first as part of an instructive mini-lesson. Then use them again as practice and/or assessment at the beginning of the next day. They can also be expanded or modified slightly to be used in centers for more practice. Many of these activities can be repeated several times during the year to reinforce mastery.

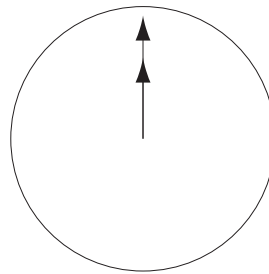
Measurement of Time—Clocks

1. Class graph.
 - a. As they enter the classroom, children will choose one of two graph columns on the floor (*I take my bath in the a.m.* or *I take my bath in the p.m.*) in which to place a full sheet of construction paper.
 - b. Teacher will place pictures of clocks along the bottom of the graph to help them make the connection that the graph has to do with telling time.
 - c. After everyone has contributed, discuss the graph. Which time do more children bathe? What do a.m./p.m. mean (morning and evening will do)? As a group, using one class clock or use individual clocks, do some “CLOCK TALK” aloud. Show each hour on the clock and say, “It is 12 o’clock a.m. It is one o’clock a.m.,” etc. all the way around the a.m. hours on the clock. Start the p.m. hours and teach that we start over at 12 o’clock and do all the hours again for p.m.
 - d. Read a book about morning and/or night. See suggestions in topical bibliography (p. 8-45).

What Time Do You Bathe?		
5↑		
4		
3		
2		
1		
	I take my bath in the a.m. (morning)	I take my bath in the p.m. (evening)

2. Sorting for morning, afternoon, evening, and night.
 - a. Place four pieces of construction paper on the floor or table with a container or basket by each. The construction papers will read, “Morning, Afternoon, Evening, Night”.
 - b. Place cards on the table that read, “6:00 a.m., 10:00 a.m., 2:00 p.m., etc.
 - c. Students will choose one of the cards, and place it on the correct sheet of construction paper.

Repeat the same type of discussions and literature from 1c and 1d, above.
3. Make clocks from hula-hoops.
 - a. Make two hula-hoops into clocks by placing masking tape markers where the numbers belong. Minute and hour hands could be made from poster paper.
 - b. Place cards on the table that show the hours from 1-12. Put balls of tape on the backs of the cards. Sit a large Judy Clock, etc. on the table for students to use for problem solving.
 - c. As children enter, they pick a time card and tape it on the hula-hoop clock in the correct place.
 - d. Assessment starter to see if children understand time relative to activities during the day.
 - Children will write their names on cards and place them in the row that is the time they eat lunch (see p. 8-5).
 - Draw the hands on a clock at the time they eat lunch, go to bed, (etc.) Put their name on the back of the clock.



5. “Hickory, Dickory, Dock” circle game.
 - a. Make a very large circle clock from a piece of yarn. Place the numbers around the circle. Make another yarn circle two feet out from the first. This keeps the children at a reasonable distance from the clock and numbers.

What Time Do You Eat Lunch?				
8:00 a.m.				
9:00 a.m.				
10:00 a.m.				
11:00 a.m.				
12:00 p.m. noon				
1:00 p.m.				
2:00 p.m.				
3:00 p.m.				
4:00 p.m.				
5:00 p.m.				

- b. Children stand around the perimeter of the outside circle. Up to 12 children stand around the circle. Other children may sit in a row of chairs along one side.
- c. All the children, sitting and standing, chant the poem “Hickory, Dickory Dock” as they skip, hop, or walk around the circle. When it gets to the part where the poem says, “The clock struck one and down he ran,” the child nearest the one, runs out of the circle and the 1st child from the chair row takes his/her place in the circle. The other children on the chairs all move up one chair and the “mouse” takes the last chair in the line.
- d. For variety, the students can help make up rhymes for each of the hours. (The clock struck two, the mouse lost his shoe, etc.) Students can create word strips of the poems during a shared writing experience. During the game, the words strips can be pulled from an upside down pile, one at a time, to see which number is the new mouse.

Measurement of Worth—Identifying Coins

1. Choose and pay for a snack to eat later on today.
 - a. Choose the snack you would like today.
 - b. Put your name on the card with the coin picture that can help you buy that snack.

- c. Children must match the coin, which is taped on the snack plate, with the card showing the coin to pay for it.
2. Graph to show heads or tails of coins.
 - a. Have a basket with cards that have pictures of individual coins on them.
 - b. Each student chooses a card from the basket and then matches that coin with a plastic coin.
 - c. The student will flip the coin and draw a circle to represent his/her coin or trace it in the appropriate place on the graph.
 - d. When all the children have completed the task, discuss ways you can count the coin circles to make sure you count them all, but only count them once.
 - e. Teach them to cross out coin circles and use tally marks. Students follow up in a center with an extension of the activity.
3. Find the correct coin to go in each bank.
 - a. Have four banks with slots in the top for coins.
 - b. Put a pictorial, word, or value representation on the outside of each bank (or use all three for each bank, depending on what you want to emphasize).
 - c. Each student will find a correct coin to go in each bank as s/he enters class.
4. Find a matching coin from a friend.
 - a. Students receive one or two coins as they enter.
 - b. They must find a friend who has the same coins they have.
 - c. The two friends place their coins on a paper plate together with their names.
5. Matching the coin and manipulatives.
 - a. Place different classroom manipulatives in containers with a price written on each container.
 - b. Students are given a coin as they enter.
 - c. Each student must go pick the correct manipulative and return it with his/her coin to the teacher. Children could continue purchasing the manipulatives several times as other classmates arrive. Four students could also be assigned to collect the manipulatives and coins as they show they have mastery of coin image and value representation.

Measurement of Time—Days of the Week

1. Sorting days of the week. Try this activity every day for one or two weeks to help children become individually accountable for learning days of the week.
 - a. Have a laminated calendar with all the spaces drawn in, but no words or numbers. The first time you do this, have some cards with the days of the week taped in place at the top of the calendar.
 - b. Have a basket of cards that fit the spaces on the calendar. Each card has the name of one day of the week written on it.
 - c. Each student will take the card on the top of the pile and place it on any day that corresponds to the word on his/her card. There are four to five Mondays in any given month, so four to five children may put cards on the different Mondays.
 - d. To use this as an assessment, rather than practice, have students write their names on the backs of the cards. Laminated cards can be written on with dry erase markers and reused.
2. Finding friends to make a week.
 - a. Make sets of cards with one day of the week written on each card. Early in the year the cards should be color coded for easier identification. It is helpful to have a calendar worksheet for each child to carry as s/he works.
 - b. Each student will take a card with a day of the week written on it as s/he enters the classroom.
 - c. Students then look at a calendar model and work with each other to try to group themselves into all the days of one week in the proper order.
 - d. When a student finds a whole week, s/he comes and shows the teacher. The student then receives another card and joins another group. Repeat until all the children arrive.
3. Days of the week hopscotch.
 - a. Set up a hopscotch with masking tape on the floor.
 - b. Write the days of the week on 3" x 5" cards and tape them securely in the top, left-hand corners of each hopscotch square.
 - c. Children hop into the squares and say the days of the week as their feet land in the squares.

4. Days of the week hula hop.
 - a. Lay seven hula hoops or yarn circles on the floor with days of the week taped down securely on the left-hand side in each circle.
 - b. Children jump with both feet from one circle to the next as they read and say the days of the week.
5. Bouncing balls day of the week drill.
 - a. Each student takes a small ball and plays bounce/catch alone or with a friend.
 - b. Each time the ball hits the ground, s/he says the next day of the week aloud.

They can also bounce balls in hula hoops (as in *Days of the Week Hula Hop*) and say the names of the days as they bounce through the circle sequence.

Linear and Area Measurement

Adapt the following linear measurement ideas to use with area by having students cover an area with manipulatives rather than covering a line. Discuss tessellation (touching on all sides) as opposed to linear, end-to-end touching, for measurement method.

1. As students enter they place one paper clip or some other manipulative in a row, touching the previous item to add to the measurement of a strip of tape on the floor or the table. They do this with several different choices of manipulatives for several taped strips. The teacher starts the manipulatives for each row so students will know which measurement standard to use for that tape. Afterwards count and graph the results.
2. Students take their shoes off and place them end-to-end in the center of the group area in the room, sorting by color or shoe type. Discuss which line is longer/shorter, has greater/fewer, more/less shoes. Measure each line with craft sticks, large construction paper, jump ropes, etc. Discuss which method of measurement is easiest, hardest, why?
3. Place hula-hoops of several sizes on the floor. Students measure around them with manipulatives and/or rope marked with tape to show where the measurement ends. They count and compare measurement results. They can also measure a taped line showing the diameter of the circles.

4. As students enter they observe several equal lines of manipulatives side by side. They estimate how many items they think are in each line and then count them. Afterwards the class discusses how many of each item it took to complete the row and why the results are different.
5. Students will make a snake from clay as they enter. They will use snap together blocks, links, or other nonstandard items to measure their snake and write it quite large on a paper with their name. As the class gathers, they line up from the smallest to the largest number.
6. Students will take a piece of yarn and measure the length of a table. When the class gathers, lay the pieces of yarn out and discuss why the lengths might vary. What is the best way to measure to be sure you are accurate? Students will come to understand the importance of starting and ending in the exact same spot on the table and with the yarn. The fact that yarn stretches may also be discussed.

Volume Measurement

Use a water table or a large Rubbermaid type container on a table for these activities.

1. Locate several containers of differing shapes that hold close to the same amount of liquid. Each student should guess which two containers hold the same amount and experiment by filling one with water and then pour into the other to see if the second container is the same. Continue to experiment later in the day as a center. This activity can also be done with wheat. Discuss more and less full, deeper and shallower, wider and narrower container sizes, heavier and lighter weight for filled containers.
2. Sit a clear cylindrical vase (preferably plastic) partially filled with water on the table. Students will measure how deep the water is with a ruler held to the outside. They will then start to add clean river rocks to the container one at a time and continue to measure. What is happening? Why? Continue to experiment later in the day as a center. Discuss more and less full, deep and shallow.
3. Estimate how many manipulatives will fill a container. Write your guess on a chart by your name. When the class gathers, fill the container and count to see how close you came. In the whole group, do the same thing over again with smaller manipulatives. Count and compare to the first total. Why did the results come out as they did?

4. In a whole group, fill a clear container first with large items. Ask if it is full. Can any more fit? Then pour in medium sized items and discuss what happened. Can any more fit? Then pour in very tiny items or water. Discuss what happened and why. (Manipulative bears, plastic craft beads, and wheat work well in a wide mouthed canning jar).

Weight Measurement

1. Students stand on bathroom scales as they enter. They write their weight on a chart by their name or on a Post-it® note. Write down the numerals you see when you weigh yourself.
2. Students will lift two to five items. (Bags of beans or wheat work if nothing else, but classroom trucks, blocks, puzzles etc. are also good, especially lifting a large, light-weight stuffed animal compared to a heavy, small bag of rocks.) Put a number on each item for identification. Students will put their names on sticky notes and place on a graph according to which item they think is heaviest. Do another time with lightest. Discuss heavier/lighter, more/less. Does larger size always indicate greater weight? What equipment do people use to figure out how much something weighs? Show pictures of a variety of scales.
3. Students will look at several manipulatives as they enter the class. They will choose two of the items. Which do they think is heavier/lighter? They will then place the items on a balance scale to see the results. Which weighs more/less? Why does the scale go down on one side and up on the other?
4. Work with the poem “Jack and Jill.” Students lift several empty pails. Are some larger/smaller, heavier/lighter, deeper/shallower, wider/narrower, taller/shorter? Compare to identical buckets filled with more and less water and discuss the same issues. Measure circumference at the bottom and the top. Measure diameter. Fill with big blocks or small blocks and compare how many fit and how heavy each feels. Weigh them on scales.

Temperature Measurement

1. Have several containers of water of varying temperatures with thermometers sitting in each. Have them sitting on three different colors of construction paper for identification.
 - a. Students observe the temperatures and without touching the containers, decide which is hotter, colder, medium temperature.

- b. They write the words, “hot, cold, medium” on a paper with a crayon that matches the construction paper. The words could be written and they could circle them with the appropriate colored crayon as an alternative.
2. Have three color-coded pillowcases containing the following items tied closed so students cannot see what is inside.
 - a. bag of ice
 - b. hot water bottle
 - c. stuffed animal

The students lift and feel the pillowcases, then draw a picture of what item they think is in each bag. Use the crayon that matches the bag color code for the picture. As a whole group, discuss what clues helped them decide what was in each bag.

Additional Resources

Web sites

For additional practice in telling time:

<http://www.edhelper.com/Time.htm>

<http://www.kidsolr.com/earlychildhood/page4.html>

http://www.computerlab.kids.new.net/time_sites.htm

<http://www.zoomwhales.com/crafts/clocks/clock/>

A Chick Called Saturday

Math Standard IV:

Students will understand and use simple measurement tools and techniques.

Objective 1:

Identify measurable attributes of objects and units of measurement.

Objective 2:

Use appropriate techniques and tools to determine measurements.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts II, III, IV, VI, VII-3, VIII; Math IV; Science III

Math Standard IV

Objectives 1 & 2

Connections

Background Information

If students have experienced a daily calendar this activity will help them solidify what the calendar is all about in terms of time measurement.

It is important to teach each individual student the vocabulary and concepts of calendar time measurement. There are children who watch daily calendar activities day in and day out and never really connect to what is happening. Some tend to fairly quickly tune out the whole group daily routine. This activity helps each student be accountable for an individual engagement in calendar concepts.

Invitation to Learn

Read *A Chick Called Saturday*.

Ask comprehension and connecting questions such as: “What were the names of the baby chicks? Why did the mother hen give them those names? Where have you seen those names before? What day of the week were you born?” (Ask your dad and mom.)

Instructional Procedures

Group participation in discovery of days, weeks, and a month on the calendar. Fine motor cut and paste, and patterning activity.

1. Point to the class calendar. Touch the squares with the dates on them. Tell them each square is one day. One row of days is called one week. All of the days together are called a month. Go back

Materials

- ❑ A Chick Called Saturday
- ❑ A class calendar with all the dates on it
- ❑ A chart-sized *Calendar*
- ❑ Colored squares for blank calendar: 4 each of yellow, green, blue, purple, orange, red, pink with the names of the days written on them.
- ❑ Colored paper with strips with the days of the week printed on each color in the same order as the colored calendar. (Have enough strips for each student to have enough for the number of days in the upcoming month.)
- ❑ Scissors
- ❑ Glue sticks
- ❑ Small calendar for each student to color

through and point to a day and tell them, “This is one day, this is one day etc.” Then point to a day and ask them, “What is this?” Point and ask several times to reinforce the need to be individually responsible for learning in the group setting.

2. In the story, when was the first chick born? Have a student come point to Sunday on the blank calendar. What did his mother name him?

Give the student a yellow *Calendar Square* (p. 8-18) with the word “Sunday” on it and help him/her place it on the first Sunday on the chart-size *Calendar* (p. 8-17). Do the same for the other chicks and days of the first week on the calendar.

3. Count the days of one week on the class calendar. Count the days of one week on the blank calendar. Point out again that those seven days together are called a week. Then ask, “What is the name of all seven days in a row?” Ask the question several times and praise the responders so all understand they need to be personally responsible for individual learning in the group setting.
4. Point to the second Sunday on the blank calendar. Can anyone guess what color we will place on this day? Have a student come up and put a yellow square on that Sunday and repeat for all the Sundays and then for all the other days of the week.
5. Ask the class to tell you the color of all the Sundays, Mondays, Tuesdays, etc. Ask them to help you count how many days are in one week. How many weeks are in one month?
6. Explain that in order to help them understand how long a day, week and month is, you will be making a paper chain with one link in the chain for each day of the month. All the Sundays will be yellow, just like on the calendar, etc. Show them a completed chain. Show them that each Sunday link on the chain is yellow, and each Sunday on the calendar is yellow. Each Monday link on the chain is green, each Monday on the calendar is green, etc.
7. Demonstrate cutting apart the strips to make the chain and gluing them together in the pattern. Explain that they must put the colors in exactly the same order as the calendar shows. Students will then go to their tables where the materials are organized. Place the colored calendar and completed chain where the students can see them for reference.
8. Begin as a whole group to make sure all students understand the directions. As they begin to demonstrate comprehension, allow them to complete the chain independently. Direct students to put their names on a yellow link and glue it together. Ask them to

refer to the calendar and the completed chain to see what color should come next. They should all then pick up a green link and thread it through the yellow link, glue and seal it.

9. Interim activities for students to engage in as they complete their chains: Students can work in teams to reconstruct a large calendar chart like the one the class made with colored days. Students can look at books associated with calendaring concepts. Students can look at old calendars.
10. The children will want to take the chains home. Keep a model chain at school and cut a link each day as you point out that day on the class calendar, cutting three each Friday for the days they will be at home.

Possible Extensions/Adaptations/Integration

1. Students can do suggested interim activity at the beginning of each day for a week (#9 above) as a gathering activity. Each student will choose a color and place in order on a blank calendar like the one the class made at beginning of the activity.
2. Special holidays, etc. during the month could be marked with a sticker or a link made of foil, both on the chain and on the calendar. They can count how many days until the holiday and cut a link off each day.
3. At the end of the month discuss how long it felt. Did a month seem long or short? Show them an annual calendar, naming each month as you go. Reinforce a day or a week on various monthly calendars as you scan the yearly calendar. (It is fun to teach a motion-chant rhyme to go with the year at this time. “Slap the floor, 2004,” “Boogie and jive, 2005,” etc.)
4. Have children take the assessment calendar home and have their parents help them mark which day of the week they were born.
5. Reread the book and make connections to Standard III, Objective 2 c and e (real and not real animal behavior, animals care for their young), followed by a nonfiction book about mother and baby chicks.
6. Draw pictures of the seven chicks in a journal and label them by writing their names in order or by cutting and pasting their names in order, or drawing the chicks on the spaces on a blank calendar and drawing an arrow from each chick to the day of the week he was born.

Assessment Suggestions

- Students will respond appropriately in the group learning session.
- Students will show they are learning the relationship between a day, a week, and a month by responding appropriately to questions while they are making their chains.
- Students will color in the days on a small calendar, like the group calendar, and name the days as they color them. Students can write the beginning letter of each day on the corresponding square, or the whole word, for those who are more advanced. They can practice saying the names of the days of the week with a friend and then come in small groups to point and show the days of the week to the teacher.

Additional Resources

Other literature connections to teach or reinforce calendar concepts:

The Twelve Days of Kindergarten, by Deborah Lee Rose and Carey Armstrong-Ellis; ISBN 0810945126

Work together and see what 12 days looks like on a calendar. Is a month 12 days? Is a week 12 days? Have students help you count 12 days on the calendar and place a marker on the 12th day. Do you think we could count 12 more days in the same month? Mark 12 more days? Are there still 12 days left in the month? Have each child take manipulatives from a container and make a row of 12 in front of him/herself or lace 12 pieces of cereal on a necklace.

A Day, by Robin Nelson (Lerner Publications Co.: First Step Series, What do you do when you get up until going to bed?); ISBN 0-8225-0177-5

A Week, by Robin Nelson (Lerner Publications Co.: First Step Series); ISBN 0-8225-0178-3

A Month, by Robin Nelson (Lerner Publications Co.: First Step Series); ISBN 0-8225-0179-1

Today is Monday, by Eric Carle; ISBN 0698115635

This is a fun book to use with nutrition connections.

Time, by Henry Pluckrose; ISBN 0516454595

This book makes a good connection between clock time, present calendar time and history.

A Chick Called Saturday, by Joyce Dunbar; ISBN 0802852602

Blank Calendar

Month						
Sunday (yellow)	Monday (green)	Tuesday (blue)	Wednesday (purple)	Thursday (orange)	Friday (red)	Saturday (pink)

Use this calendar for assessment. Each child will color in all the Sundays with yellow, Mondays with green, etc. Use as a model for a chart-sized calendar for this activity and for a daily follow-up activity.

Calendar Squares

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Cut up and glue on colored squares to use on blank calendar for group activity and follow-up starter activity.

Jack and the Beanstalk—Plant a Bean and Watch it Grow

Math Standard IV:

Students will understand and use simple measurement tools and techniques.

Objective 1:

Identify measurable attributes of objects and units of measurement.

Objective 2:

Use appropriate techniques and tools to determine measurements.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Develop social skills and ethical responsibility.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Language Arts II, III, IV, VI, VII-3, VIII; Math IV; Science III

Math Standard IV

Objectives 1 & 2

Connections

Background Information

This activity will serve students best if done in the last three months of Kindergarten. Students will plant bean seeds, watch them grow, measure them with nonstandard objects (string, cubes, etc.) and describe their growth over several weeks in a journal. This is very flexible and can be incorporated as individual or group plantings, individual or group journaling. The students will learn to mark each day on a calendar and record observations daily. They will increase mastery of naming days of the week, the concept of a week, and the concept of a month, if frequently emphasized throughout the activity.

There are numerous content area connections and skill development opportunities in this activity. The journaling provides authentic need for writing applications. The plant provides authentic purpose for measurement and scientific observation. Every student can succeed because it allows for a broad range of reading, writing, and problem solving skills.

Invitation to Learn

Refer to the story of *Jack and the Beanstalk*. Ask the following questions: “What was it about the beans that was magic? Are there really magic beans? How long did it take the beanstalk to grow in the story? How long does it take real beanstalks to grow?” Tell them they will plant some beans and watch them grow. Will any of their beans be magic beans?

Instructional Procedures

Materials

- ☐ _____ and the *Beanstalk* book—one completed copy for the teacher and one blank copy for each student
- ☐ *My Beanstalk Calendar*
- ☐ Three bean seeds for each student—a variety of beans is more fun
- ☐ Small plastic cup for each student
- ☐ Clear plastic food handlers gloves
- ☐ Cotton balls
- ☐ Magnifying lenses
- ☐ Clear jar
- ☐ String for measuring
- ☐ mm ruler
- ☐ A number of activity related books on a table such as: calendars, books showing plant growth, books showing linear measurement tools and applications, pictures of plant scientists at work, gardening catalogs

Day 1

1. Introduce _____ and the *Beanstalk* book (p. 8-25). Show students a sample of a completed book so they know what the long-range goal is for the book project. Determine where the books should be placed each day so they are not lost. Hand out the books. Each child does the following:
 - a. Write your name on the book.
 - b. Find today on the *My Beanstalk Calendar* handout (p. 8-30) and write, “Day 1.” Find the page that says, “Day 1” in the book. (Tell them today is the first day of this experiment, so this calendar will show how many days we will do the experiment, not what day of March it is. Emphasize how to find the day of the week, and what the name of that day is daily through this activity.)
 - c. Tell them they have marked it on their calendar and now they will do the job for the first day in their journal. Point and read the words together on the Day 1 page. You may choose to have the words written on a chart. Read them together on the chart and then again in the book. Students should point to, or underline, each word for one-to-one correspondence, even if they cannot read them.
2. Students go to an area where there are three seeds in a small plastic cup for each student. It helps to have their names already written on the cups with permanent marker. They observe their seeds (explain that “observe” means to look carefully at the size, shape, texture, color, etc.). As they are observing, ask questions about size, texture, and color to prompt observations. Students talk with friends about what is the same and different.
3. Students measure the seeds with pieces of yarn or string and record the size with a marker.
4. Students draw the three seeds on the Day 1 page of their books and write some descriptive words. (You can write words on a chart for those who cannot yet invent spelling for themselves.)
5. Students fill the cup with hot water and put the seeds in the water to soak overnight.

Days 2 and 3

1. Find the day of the week for today on the journal calendar and write “Day 2.”
2. Read the words on the Day 2 page in the journal together.
3. Place seeds on a paper towel. Observe them. Are they different from yesterday? (Write descriptive words they suggest on a chart as they observe their seeds.)
4. Measure seeds with the same strings. Are they different?
5. Draw a picture of the seeds on the Day 2 page in the book and write words about them. Put them back in the cup with hot water.

Day 4

1. Complete steps 1-4 above.
2. Work in groups of five. Write the name of each group member on one of the fingers of a clear, plastic glove. Place a wet cotton ball in the tip of the finger and place seeds on cotton. Tape the glove to a window at a level where they can see their name and seeds. **OR** plant one set of seeds in a plastic baggie with cotton balls or paper towel in the bottom for the whole class to observe. (Ask them what they think will happen.)
3. Plant one set of beans close to the side in a clear jar with soil & water as the class beanstalk.
4. Draw pictures of the seeds in their new homes and write words to describe. (Write words and short sentences on a chart to assist them as needed.)

Day 5 through the end of the experiment

1. Record experiment Day number on journal calendar.
2. Observe seeds. Draw them in journal. Write about them. Measure them.
3. Teacher should ask questions and write words and short sentences on a chart daily to assist in vocabulary and writing conventions.
4. When measurable growth appears, have students begin to measure it with a string, mark with a marker dot, and also measure with a ruler with millimeters marked on it. Ask daily, “What do you think will happen next?” As the plants in the plastic begin to die and the one in the pot continues to grow, ask students why this is happening.
5. Ask questions related to the story, “What did we do differently than what Jack and his mother did? What do seeds need to grow?”

Would you be like a giant, relative to your class beanstalk? What would happen if you tried to climb on it?" What kinds of plants could we climb without breaking them?

6. Grow the beans for as long as seems practical in your classroom. Continue watering, measuring and discussing the changes. When the daily changes and recording become redundant, a team or individual may be assigned to be the bean plant scientist for the day and report to the group. You may move to measuring once a week, but daily marking of the calendar in the book is important to the time measurement part of the unit. Ideally, you need to grow the beans for one month so students experience individual accountability to daily recognition of calendaring over that time period. They often learn better what the days of the week are by the end of the month when it is an individual, rather than group process.

Possible Extensions/Adaptations/Integration

This activity is a guaranteed success experience for every student because they can work with other students and can achieve daily the minimum standard for success on each part of the activity. There is no particular benchmark except full participation in each step of the activity.

- The table with extension books and materials provide opportunities for those who have more interest in the subject and those who complete their work more quickly.
- Students who finish early may also choose to assist those who have a harder time staying on task.
- Whole group extensions—shared reading.

Assessment Suggestions

- The daily journal and string measurement provide ongoing assessment of on-task participation as well as opportunity for writing development assessment.
- Put everyone's names on slips of paper or craft sticks and rotate the answering of daily questions and input in regards to calendaring mastery, observations, descriptions, predictions, etc. Keep a class list on a clipboard during the activity with space for checking off oral language and other skill observations as they answer questions and work in their journals.

- At the end of the activity, ask students to practice saying the days of the week in order to each other, showing each other the days on their journal calendar. Ask them to teach their friend and help him/her work on it until s/he thinks it is learned well. Then tell the teacher when they can both do it. Spot check students you think may not have mastery.
- Give everyone a paper with a blank calendar with no words. Ask them to sit somewhere in the room where they cannot see anyone else's paper and no one can see theirs. Ask them to color all the Mondays purple, the Tuesdays yellow, etc.

Family Connections

- Send a note home describing the activity and encouraging parents to engage in conversation with the students about the progress of their bean garden. Also encourage them to visit the class and look at the journals.
- Send home a paper with instructions for a family beanstalk drawing project. Ask that all in the family draw some part of the beanstalk and write their names by it. Encourage students to tell the story to their families.
- Invite families to plant a bean at home and have a contest to see whose bean grows fastest. Suggest that they help students measure it every day with a string and make a mark, just like at school. The students could bring the string from home to compare to their beans at school.

(student name)

and the Beanstalk

My Science Journal

Day 1

- 1. We will look at our seeds.***
- 2. We will measure our seeds.***
- 3. We will draw our seeds.***
- 4. We will get our seeds wet in a cup.***

Day 2

- 1. We will look at our seeds.***
- 2. We will measure our seeds.***
- 3. We will draw our seeds.***
- 4. We will write about our seeds.***
- 5. We will get our seeds wet in a cup.***

Day 3

- 1. We will look at our seeds.***
- 2. We will measure our seeds.***
- 3. We will draw our seeds.***
- 4. We will get our seeds wet in a cup.***

Day 4

- 1. We will look at our seeds.***
- 2. We will measure our seeds.***
- 3. We will plant our seeds in a bag.***
- 4. We will plant some in a jar.***
- 5. We will draw and write about our seeds.***

Day _____

- 1. We will look at our seeds.*
- 2. We will measure our seeds.*
- 3. We will draw them and write about them.*

Day _____

- 1. We will look at our seeds.*
- 2. We will measure our seeds.*
- 3. We will draw them and write about them.*

Day _____

- 1. We will look at our plants.*
- 2. We will measure our plants.*
- 3. We will draw them and write about them.*

Day _____

- 1. We will look at our plants.*
- 2. We will measure our plants.*
- 3. We will draw them and write about them.*

My Beanstalk Calendar						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Jack and the Beanstalk— Measurement Center Ideas

Weight Measurement Center:

The “golden eggs” from the giant’s goose

1. Fill “golden” plastic eggs with differing numbers of beans. Tape the two sides together.
2. Students place beans in the “not yellow eggs” of the same size and try to balance them with the “golden” eggs by adding and subtracting beans. They count the beans after the eggs balance to determine how many beans are in the sealed yellow egg.
3. Emphasize comparison words: larger, smaller, heavier, lighter, more, less.

Materials

- ☐ Balance and oz. weight scales
- ☐ Dry beans
- ☐ Pencil and paper
- ☐ Plastic eggs

Money Center:

The bags of coins from the giant’s treasury

1. Buy beans. Choose one bean at a time (white beans = 1¢, pinto beans = 5¢, red beans = 10¢, black beans = 25¢). Choose the appropriate coinage for the bean from a container of play money.
2. Stamp a receipt with correct coin stamp and write the name of the coin on the receipt.
3. Key in the proper coin amount for advanced students and place money in the cash register.
4. Students rotate through each step, taking turns as they walk around the table buying beans.
5. Students who are ready for addition and subtraction can purchase several beans at a time or take large coinage and make change at the register.

Materials

- ☐ Plastic dimes, nickels, quarters, pennies
- ☐ Cash register
- ☐ Money stamps
- ☐ Adding machine paper and scissors or cut pieces of paper for receipts
- ☐ Pencils
- ☐ Black, red, pinto and white beans and a sign stating the name of the beans and the price and name of coin for each bean with a picture of the bean and coin for each

Art Center:

Yellow Color-Family Experimentation

1. Paint stripes of warm colors, or shades and tints of yellow, on a large egg shape. Measure each stripe with a string. How long is it? How wide is it?
2. Do straw blowing art with gold tints and shades. Using nonstandard objects, measure how long the lines are from the bottom to the top.
3. Drop shades and tints of any one color family on a coffee filter with eye droppers. The next day draw and cut egg shapes of different sizes from the filters or use colored construction papers from a color family. Glue them in order from largest to smallest on a piece of paper and measure how long and wide each one is. Write the measurement on the paper next to each egg.

Materials

- ☐ Paint mixtures of tints and shades of yellows
- ☐ Other paints and pallets for mixing
- ☐ Large egg shapes cut from cardstock for tracing
- ☐ Paint paper
- ☐ Paint brushes
- ☐ Coffee filters
- ☐ Eye droppers
- ☐ Ruler or measuring tape
- ☐ Straw sections for blowing colors
- ☐ Pencils

Nonstandard Length Measuring Center:

Class Add-on Giant Beanstalk

Materials

- ☐ Pieces of paper with measurements written on them from 3" to 11"
- ☐ Copy machine paper for each student
- ☐ Scissors
- ☐ Markers
- ☐ Crayons
- ☐ Tape
- ☐ Nonstandard objects for measuring
- ☐ Blocks

1. Make a group giant beanstalk. Each person picks a paper that tells how much of the beanstalk s/he should draw. The student measures that distance on a piece of construction paper from the bottom of the paper to the top of his/her measurement, then draws the beanstalk and writes his/her name on it and how long it is (six links, two pencils, etc.).
2. Each child then cuts his/her beanstalk piece off at the top and connects it with tape to the portion of the beanstalk that has been completed.
3. When they are done, students work together to make a beanstalk out of blocks lying down. Measure it and put it away before leaving the center.
4. After everyone has visited the center, measure the beanstalk as a group activity. How long is it? How wide is it at different points? Use string, links, etc., to measure the class beanstalk.

Problem Solving Center:

- Look at pictures of bare deciduous trees. Are the trunks the same width at the bottom as at the top? Why? Where do the trunks end? How do they compare with the beanstalk in the picture books? Is the beanstalk a tree?

Materials

- ☐ Pictures of bare deciduous trees to use for measuring the trunk length and width
- ☐ cm rulers
- ☐ Inch rulers
- ☐ Pictures of beanstalks from picture books

Music Center:

The Golden Harp—Long and Short Strings/ High and Low Sounds

1. Make and play instruments made from elastics and wood blocks. Measure how long the strings are. Do the longer strings make higher or lower sounds?
2. Measure and play auto harp strings, guitar or ukulele strings, etc.
3. Use a spoon to tap cups of water more full and less full. (About 1", 3", 5", and 7" of water in four clear cups.) Measure the water with snap-together cubes. Is the sound higher or lower? Why?
4. Play fast, slow, loud and soft on each instrument. Which ones are the loudest? Why?
5. Have a harpist come in and play, if possible, for a whole group activity.

Materials

- ☐ Ukulele, guitar, autoharp, if there is an adult in the center to assist
- ☐ 1" x 6" x 12" wood blocks, nails placed 2" apart along the bottom edge and on a slant 2" apart along the top edge
- ☐ Elastics to fit the wood blocks
- ☐ Clear glass containers with water at different levels
- ☐ Spoons
- ☐ Rulers
- ☐ Paper and pencils

Reading/Writing Center

Materials

- ☐ Charts and manipulative pieces from class shared-readings
- ☐ Books from class shared-readings
- ☐ Idea page
- ☐ Crayons
- ☐ Markers
- ☐ Pencils
- ☐ Paper

1. Read *The Big Stem* (p. 8-35) about Jack and illustrate it.
2. Read the *Days of the Week Beanstalk Story* (p. 8-42). Highlight the day of the week on each page, both on the calendar heading and in the text. Illustrate the book.
3. Contribute to making a class book from the story. Make a page showing something you can measure in the story and write a sentence about it. (“I can weigh the eggs.” or “I can measure the beanstalk.” or “I can measure the giant,” etc.)

The Big Stem

Illustrated by _____

***Jack had some seeds. Mom put the seeds in
the dirt.***

*The seeds made a big
stem.
This stem is big.*

This stem is bigger.

***This stem is the
biggest.***

This stem is small.

He cut the stem

***This stem is the
smaller.***

***This stem is the
smallest.***

Jack and the Beanstalk

The End

Days of the Week

Beanstalk Story

Days of the Week

Beanstalk Story

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Monday Mom put them in the dirt.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Wednesday he came with a hen.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Sunday Jack got some beans.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Tuesday Jack went up, up, up.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Thursday Jack went up, up, up.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Friday Jack came with a harp.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Saturday the giant came down, down, down.						

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
On Saturday Jack cut the stem.						

Topical Bibliography for Assisting in Teaching Kindergarten Standard IV Measurement

Money

Monster Money, by Grace Maccarone (Scholastic: Hello Math Series, Level 1); ISBN 0-590-12007-7

Benny's Penny's, by Pat Brisson (Bantam Doubleday Dell); ISBN 0-440-41016-9

Deena's Lucky Penny, by Barbara deRubertis (Kane Press: Math Matters Series, Adding coins to make \$1.00); ISBN1-57565-091-6

The Penny Pot, by Stuart J. Murphy (HarperCollins, counting money); ISBN 0-06-027607-X

A Slice of Pizza, by Marice Bovetz (Wright Group: Big Book, counting money); ISBN 0-322-00194-3

Standard and Non Standard Length Measurement

The Carrot Seed, by Ruth Krauss (Scholastic: Big Book); ISBN 0-590-73301-X

Everything Grows, by Raffi (Silver Burdett Ginn: Big Book); ISBN 0517573873

Ten Beads Tall, by Pam Adams; ISBN 0-85953-242-9

The Foot Book, by Dr. Seuss (Random House); ISBN 0-394-80937-8

Twelve Snails and One Lizard, by Susan Hightower (Simon and Schuster, connection to animals real and not real); ISBN 0-689-80452-0

The Fattest, Tallest, Biggest Snowman Ever, by Bettina Ling (Scholastic: Hello Math Series, Level 1, connect to self—talents); ISBN 0-590-97284-7

Super Sand Castle Saturday, by Stuart J. Murphy (HarperCollins: Math Start Series); ISBN 0-06-446720-1

Inch by Inch, by Leo Lionni (HarperCollins); ISBN 0-688-13283-9

How Big is a Foot?, by Sharon Largo; ISBN 62-10252

Mixed Measurement

Hershey's Weights and Measures, by Jerry Pallotta (Scholastic, volume, standard and metric volume, weight, and distance, introduction to lots of vocabulary, do late in year); ISBN 0-439-38877-5

How Tall, How Short, How Far Away, by David A. Adler (Troll, quite advanced for K, but good); ISBN 0-8234-1375-6

More for Me, by Sydnie Meltzer Klinhenz (Scholastic: Hello Math Series, Level 2); ISBN 0-590-30877-7

Numbers, by Henry Pluckrose (Children's Press: Math Counts Series, calendars, rulers, volume, mass, + more); ISBN 0-516-45454-4

Measuring Penny, by Loreen Leedy (Henery Holt and Company); ISBN 0-8050-6572-5

Is it Heavy?, by Karen Bryant-Mole; ISBN 0-8368-1727-3

Comparison Vocabulary

How Big is Big?, by Stephen Strauss (KPk); ISBN 1-55263-017-X

Just Enough, by Teri Daniels (Puffin Books, relate measurement to feelings); ISBN 0-14-230195-7

Size, by Henry Pluckrose (Children's Press: Math Counts Series); ISBN 0-516-45457-9

Weight

Weight, by Henry Pluckrose (Children's Press: Math Counts Series); ISBN 0-516-45460-9

Clocks–Time of Day

Different Faces from Different Places, by Henry Layne (Wright Group: Cultural Connection Big Book, show places on the map and tell about time zones); ISBN 0-322-00191-9

Around the Clock with Harriet, by Betsy and Giulio Maestro (Harcourt Brace: Big Book); ISBN 05-17755-1187

Monster Math School Time, by Grace Maccarone: Scholastic (Hello Math Series Level 1); ISBN 0-590-30859-9

The Grouchy Ladybug, by Eric Carle (HarperCollins); ISBN 0-06-443450-8

Time—Day and Night

How Do Dinosaurs Say Good Night?, by Jane Yolen and Mark Teague; ISBN 0-590-31681-8

The Sun's Day, by Mordicai Gerstein (Harper Row, What do people do in a day?); ISBN 0-06-022404-5

Day and Night, by Henry Pluckrose (Children's Press: Math Counts Series); ISBN 0-8368-2958-1

Jesse Bear, What Will You Wear?, by Nancy White Carlstrom (Macmillan Publishing Company, early in year, what is morning noon and night); ISBN 0-02-717350-X

Calendar

A Chick Called Saturday, by Joyce Dunbar (Eerdmans Books for Young Readers); ISBN 0-8028-5260-2

The Twelve Days of Kindergarten, by Deborah Lee Rose (Harry N. Abrams Inc.); ISBN 0-8109-4512-6

Pop Up Days, by Larry Shapiro and Chuck Murphy; ISBN 0-8431-0964-5

A Day, by Robin Nelson (Lerner Publications Co.: First Step Series, What do you do when you get up until going to bed?); ISBN 0-8225-0177-5

A Week, by Robin Nelson (Lerner Publications Co.: First Step Series); ISBN 0-8225-0178-3

A Month, by Robin Nelson (Lerner Publications Co.: First Step Series); ISBN 0-8225-0179-1

Mixed Time (clock time, calendar time, history)

Time, by Henry Pluckrose (Children's Press: Math Counts Series); ISBN 0-516-45459-5

Whiz Kids Tell Me What Time It Is, by Shirley Wills (Franklin Watts - Grolier); ISBN 0-531-15979-5

Today is Monday, Illustrated by Eric Carle (Scholastic: Big Book); ISBN 1-58120-108-7

<p>Art</p> <ul style="list-style-type: none"> measuring lines on golden eggs—yellow and warm color families 	<p>Food/Culture</p> <ul style="list-style-type: none"> measuring how long it takes (time) to cook eggs tasting beans as a cultural food connection 	<p>Weight</p> <ul style="list-style-type: none"> comparing golden eggs and beans on balance and weight scales 	<p>Money/ Role Play</p> <ul style="list-style-type: none"> buying bean seeds coin picture, value and name recognition count the money in the giant's bag of coins
<p>Science</p> <ul style="list-style-type: none"> planting seeds measuring how many days they take to grow measuring how long they are 	<p>Jack and the Beanstalk Helps us Learn About Measurement</p>		<p>Length/ Height</p> <ul style="list-style-type: none"> measure beanstalk while telling time measure length of my part, and whole class group beanstalk measure block beanstalk
<p>Music</p> <ul style="list-style-type: none"> measuring string length and comparing high and low sounds harpist as a class visitor 	<p>Comparison Vocabulary</p> <ul style="list-style-type: none"> incorporate in all activities as is practical assessment at end—have things to measure in all areas of measurement. <p>Students choose two objects that they can compare and also name what measurement tools they would use to measure them.</p>		<p>ILOs</p> <ul style="list-style-type: none"> a cooperative interaction in large and small groups responsibility for individual learning
<p>Writing/ Vocabulary</p> <ul style="list-style-type: none"> journal about been seeds—compare size journal about beanstalk activities writing measurement words and recording in centers 	<p>Reading/ Literature</p> <ul style="list-style-type: none"> measure the days of the week book and chart bigger and smaller beanstalks book and chart label vocabulary words in centers read-aloud book connections 	<p>Non-Standard, volume, perimeter, diameter, circumference</p> <ul style="list-style-type: none"> use beans to estimate and then fill containers or cover lines on shapes 	<p>Nonstandard Area</p> <ul style="list-style-type: none"> cover a square with rows of beans and count how many it took cover a triangle with rows of beans and count how many it took cover a circle with

Appendix

Names _____

Picture Us Graph

12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			
	Buttons: Size, shape, color	Pets: What kind	Household Members: Who lives with you

Alphabet Chart

Aa	Bb	Cc	Dd	Ee
Ff	Gg	Hh	Ii	Jj
Kk	Ll	Mm	Nn	Oo
Pp	Qq	Rr	Ss	Tt
Uu	Vv	Ww	Xx	Yy Zz

Face Book

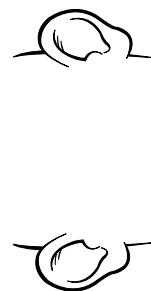
Appendix

I have _____ eyes.



I am _____.

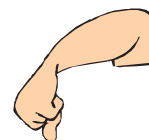
I have _____ ears. I have _____ nose.



I have _____ feet. I have _____ hair.



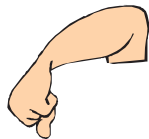
I have _____ eyes. I have _____ skin.



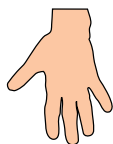
A Book About Me!

By _____

I have an arm.



I have a hand.



My arm is ____ crayons long.

My hand is ____ crayons long.

My arm can ____.

My hand can ____.

I have a foot.



I have a leg.



My foot is ____ crayons long. My hand is ____ crayons long.

My foot can ____.

My leg can ____.

I have a finger.



I have a body.



My finger is ____ crayons long. My body is ____ crayons long.

My finger can _____.

My body can _____.

